LAMONT-DOHERTY GEOLOGICAL OBSERVATORY OF
COLUMBIA UNIVERSITY
Palisades, New York 10964

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LAMONT-DOHERTY SURVEY OF THE WORLD OCEAN

General Editor, Maurice Ewing

Preliminary Report of Volume 21
U.S.N.S. ELTANIN
CRUISES 22-27
January, 1966 - February, 1967

Part A

NAVIGATION

and

Part B

BATHYMETRIC AND GEOMAGNETIC MEASUREMENTS

Dennis E. Hayes, James R. Heirtzler, Ellen M. Herron, and Walter C. Pitman III

Technical Report No. 2-CU-2-69
National Science Foundation Grant GA-894

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INTRODUCTION

The purpose of this report is to present navigation, bathymetric, and geomagnetic data collected aboard U.S.N.S. ELTANIN during cruises 22-27 inclusive. These data and those obtained on other U.S.N.S. ELTANIN cruises constitute a significant portion of all existing measurements of this type for high latitudes in the southern ocean. A major part of the data presented here have not yet been studied in detail, although some segments of it have been used in publications. Because of the current interest in the analysis of marine geomagnetic anomalies and marine morphology in terms of global tectonic processes, the data should be made available in preliminary form. A substantial effort on the part of many individuals has gone into the collection and reduction of approximately 40,000 nautical miles of data summarized here. These cruises are much shorter than the typical ones reported in this series of publications. To facilitate use of the same format throughout the series, the individual cruises in this volume will be treated as though each were one leg of a longer cruise.

The main contents of the report are introductory matter, tabulations of navigational information in Part A, and profiles of topography and total magnetic field intensity anomaly plotted against distance along the ship's track, in Part B. Index maps show the ship's track and indicate distance along the track by means of tick marks at intervals of 100 nautical miles. These maps and the lists of navigational data allow one to obtain the geographic coordinates for any point or section of the

plotted profiles. The profiles of topography are plotted at a vertical exaggeration of 100:1. The units of depth used are nominal fathoms (1/400 sec reflection time). Geomagnetic anomalies are plotted in gammas (10^5 gammas = 1 oersted). They are obtained by subtracting the regional magnetic field from the observations of the total magnetic field as described in the section on data reduction. The topographic and geomagnetic profiles are plotted with respect to distance, which is annotated at intervals of 200 nautical miles near the bottom of each profile. In addition, tick marks shown below the distance scale indicate the distance at which any change in course or speed occurred. The course and speed at any time (or distance) can be determined by examining the navigational listings. The course and speed applies to the time interval following each entry.

INSTRUMENTATION

A Varian proton precession magnetometer was used for all magnetic measurements. The instrument was towed approximately 800 ft. astern of the ship. The accuracy of this type of instrument has been discussed in many publications (e.g. Heirtzler, 1961, Bullard and Mason, 1963) and is generally accepted to be $\pm$ 10-15 gammas. Data were recorded continuously on an analog strip chart recorder and also digitally on punched paper tape at a one minute sampling interval.

A 12 KHZ transducer with an effective half angle of 30° was used with a Times Facsimile recorder for the precision depth measurements. Relative depths can be resolved to about one fathom (1/400 sec reflection time) in any depth in regions of low to moderate relief. Side echoes are

common in areas of high relief and the resolution of small amplitude relief is extremely difficult in such areas.

The Navy satellite navigation system (Guier, 1966) was used to obtain frequent and precise fixes. The ship's electromagnetic (E-M) log and gyrocompass were used by navigating officers to interpolate the ship's track between satellite fixes. Some experiences with the satellite navigation system at sea have been reported by Talwani et al. (1966). The navigational data were taken directly from the daily deck logs at each change of course or speed. Positions as found in the deck log are given only to the nearest whole minute of latitude and longitude. These positions should be generally accurate to one nautical mile, though errors of five nautical miles or more are possible under extremely unfavorable conditions. Occasionally obvious errors are present in the deck log entries and these have been corrected in the tabulated navigational data.

DATA REDUCTION

All data were digitized and reduced with the aid of IBM 1800 and 1130 digital computers and on-line Calcomp plotters. The navigational information (time, latitude, longitude) is first put in digital form and stored in the computer. All data (depth and total field) are then reduced in terms of geographic coordinates and distance along the track, using time as the dependent variable. The precision echo-grams were digitized on a Thomson digitizing table at an irregular sampling interval of one to 15 minutes, depending on the topographic relief. The data were then interpolated at a regular six minute interval and the topographic profiles were plotted from the six minute data points. This con-

stitutes about one sounding per nautical mile. Topographic relief of smaller wavelength cannot be usefully resolved on plots made at the scales presented here. Slope corrections have not been applied and the soundings plotted here have not been corrected for variations of sound velocity in water. The latter corrections are of the order of 100 fm in 3000 fm of water. The bathymetric reduction program allows the user the option of applying sound velocity corrections according to Matthews 1939 tables.

The magnetometer data were introduced into the computer by either digitizing the analog records or by using the carefully edited digital punched tape--depending on the quality of the respective records. The geographic coordinates and track distances were computed for each sampling point, again using the navigational data and time as the dependent variable. The regional field at each navigational point was determined, using a modified computer program (Heirtzler and Herron) of the Goddard Space Flight Center, which describes the regional field by spherical harmonics of degree and order 7 (Cain et al., 1964). The regional field at each geomagnetic sample point was then obtained by linear interpolation of the field determined at navigation points. Since navigation points were rarely separated by more than a few hours (or a few tens of miles) and since the spatial changes of the regional field are small over short distances, this approach introduced no significant error in the determination of the regional field at each individual sample point.

No indications have been given about magnetically quiet or disturbed days and no corrections have been applied for any diurnal variations of the magnetic field. The latter variations are of the order of 50 gammas per day in the area of interest and would have long apparent wavelengths not likely to be confused with anomalies arising from sources in the

earth's crust. Secular variations are effectively removed as part of the regional field by considering the time derivatives of the harmonic coefficients which define the regional field.

ACKNOWLEDGMENTS

The data presented here are the result of conscientious efforts by many individuals who comprise the entire spectrum from technicians, scientists, ship's personnel to administrators. Although it is impossible to acknowledge each individual by name, the contribution of these individuals is recognized and gratefully acknowledged. The computerized data processing techniques used were developed in large part by M. Talwani. The following persons were responsible for a substantial part of the data reduction: E. Haff, M. Schneck, D. Koch, D. Christman. The research was supported by the National Science Foundation under grants NSF GA-305, NSF GA-175, NSF GA-894, NSF GA-1121, NSF GA-1523.

Lamont-Doherty Geological Observatory Personnel - Geophysics Party -
Aboard U.S.N.S. ELTANIN (Cruises 22-27)

Cruise #22	19/I/66 Punta Arenas, Chile		17/III/66 Punta Arenas, Chile

Jorge Duran
Lawrence Oblinger
Dennis Rosmini
Thomas Wustenberg

Cruise #23	1/IV/66 Punta Arenas, Chile		28/V/66 Auckland, New Zealand

Steven Lieber
Lawrence Oblinger
Dennis Rosmini
Thomas Wustenberg

Cruise #24	9/VII/66 Auckland, New Zealand	9/IX/66 Talchuano, Chile	17/IX/66 Valparaiso, Chile

George Carpenter
Dennis Rosmini
Thomas Wustenberg
Steven Lieber

Cruise #25	25/IX/66 Valparaiso, Chile		20/XI/66 Wellington, New Zealand

Robert Houtz
Charles Boylan
Rodney Blaser
Steven Lieber

Cruise #26	29/XI/66 Wellington, New Zealand		19/XII/66 Wellington, New Zealand

Charles Boylan
Rodney Blaser
Thomas Wustenberg

Cruise #27	31/XII/67 Wellington, New Zealand		28/II/67 Melbourne, Australia

Steven Lieber
Tony Johnson
Ronald Ross
Robert Leyden
Robin Falconer
Bryan Jones

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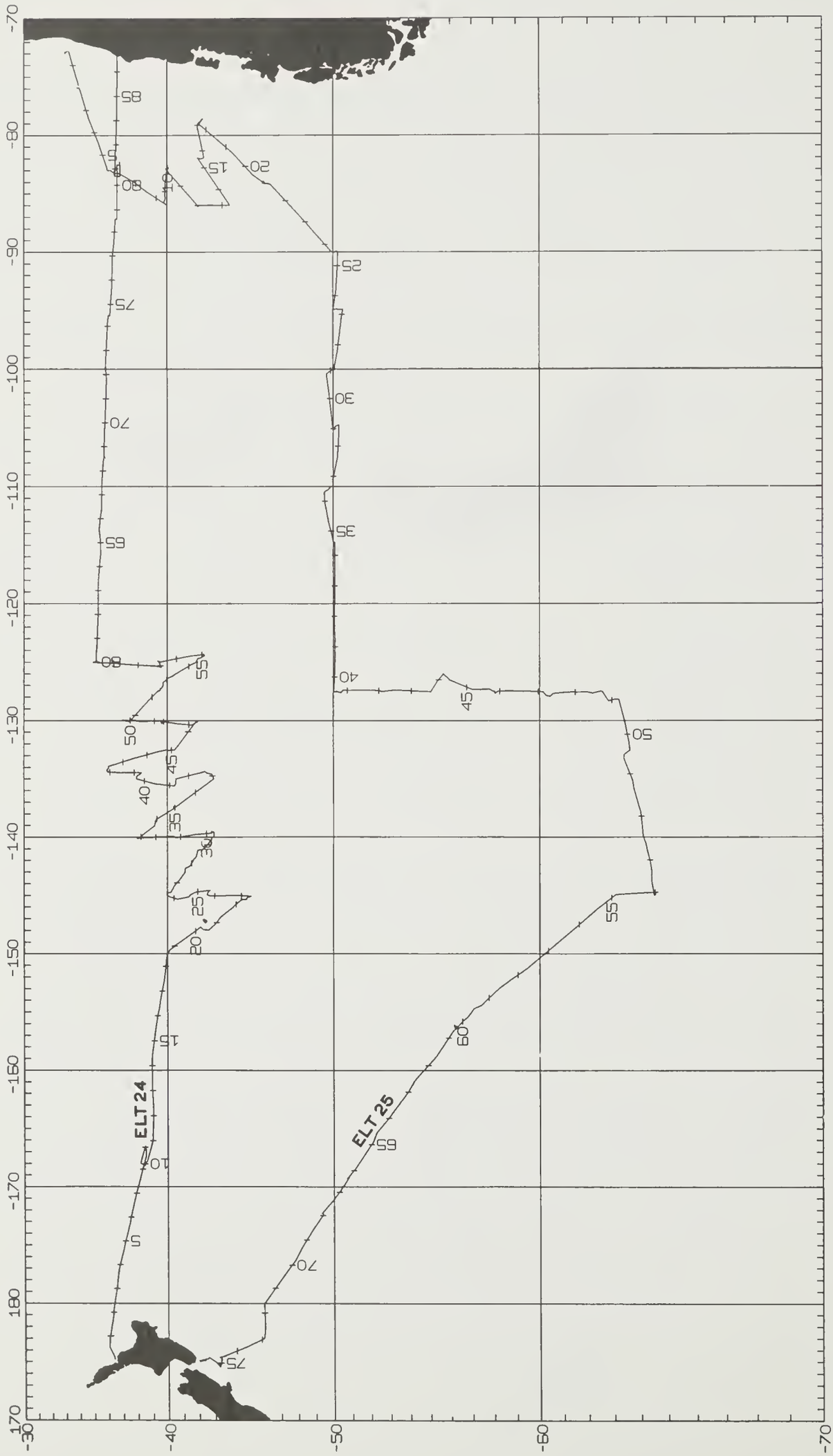
ELT 22
ELT 23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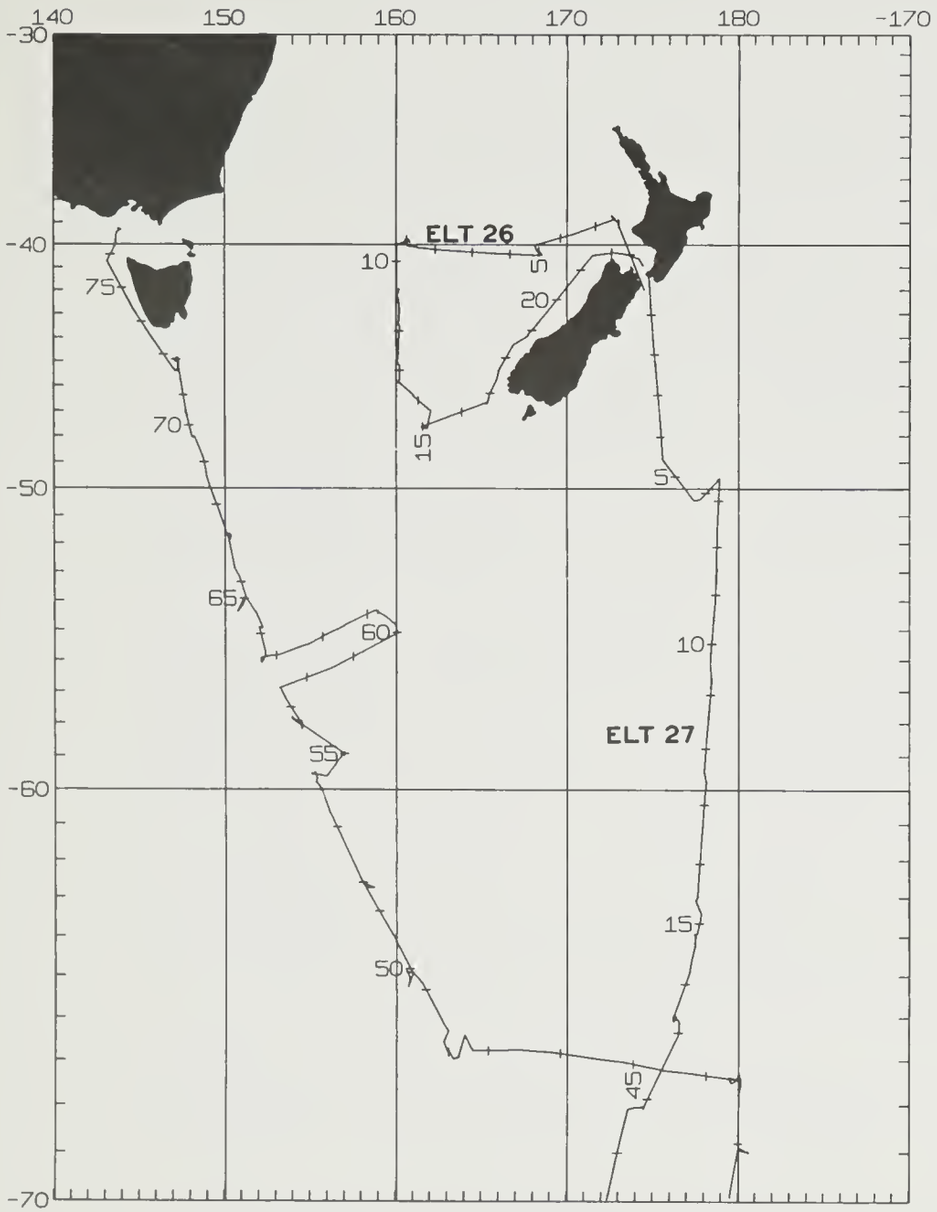
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ELT 27
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ELTANIN 22 PUNTA ARENAS TO PUNTA ARENAS

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
19	1	1966	0.0	1230	-53 10.0	-70 53.0	0.0	9.3	65
19	1	1966	0.0	13 0	-53 8.0	-70 46.0	4.7	10.0	46
19	1	1966	0.0	14 0	-53 1.0	-70 34.0	14.7	9.7	22
19	1	1966	0.0	15 0	-52 52.0	-70 28.0	24.4	7.2	15
19	1	1966	0.0	16 0	-52 45.0	-70 25.0	31.6	10.1	73
19	1	1966	0.0	17 0	-52 42.0	-70 9.0	41.8	12.8	72
19	1	1966	0.0	18 0	-52 38.0	-69 49.0	54.5	14.8	48
19	1	1966	0.0	19 0	-52 28.0	-69 31.0	69.4	13.6	64
19	1	1966	0.0	20 0	-52 22.0	-69 11.0	83.0	12.4	99
19	1	1966	0.0	21 0	-52 24.0	-68 51.0	95.3	10.0	102
19	1	1966	0.0	22 0	-52 26.0	-68 35.0	.05.3	0.0	90
19	1	1966	0.0	2219	-52 26.0	-68 35.0	105.3	3.9	112
19	1	1966	0.0	2239	-52 26.5	-68 33.0	106.6	4.3	0
19	1	1966	0.0	2246	-52 26.0	-68 33.0	107.1	13.0	90
19	1	1966	0.0	23 0	-52 26.0	-68 28.0	110.2	9.1	124
19	1	1966	0.0	2359	-52 31.0	-68 16.0	119.0	11.8	123
20	1	1966	0.0	054	-52 37.0	-68 1.0	129.9	10.7	125
20	1	1966	0.0	4 0	-52 56.0	-67 16.0	163.1	10.7	131
20	1	1966	0.0	10 0	-53 38.0	-65 55.0	227.2	12.0	130
20	1	1966	0.0	1640	-54 29.0	-64 10.0	307.2	10.8	111
20	1	1966	0.0	1830	-54 36.0	-63 38.0	327.1	8.2	134
20	1	1966	0.0	2220	-54 58.0	-62 59.0	358.5	8.7	150
20	1	1966	0.0	2228	-54 59.0	-62 58.0	359.7	0.0	90
20	1	1966	0.0	23 0	-54 59.0	-62 58.0	359.7	6.6	150
20	1	1966	0.0	2342	-55 3.0	-62 54.0	364.3	10.0	146
21	1	1966	0.0	6 3	-55 56.0	-61 52.0	427.9	0.0	90
21	1	1966	0.0	635	-55 56.0	-61 52.0	427.9	0.9	90
21	1	1966	0.0	1032	-55 56.0	-61 46.0	431.2	0.6	121
21	1	1966	0.0	1710	-55 58.0	-61 40.0	435.1	1.1	90
21	1	1966	0.0	1740	-55 58.0	-61 39.0	435.7	0.6	164
21	1	1966	0.0	21 0	-56 0.0	-61 38.0	437.8	4.0	209
21	1	1966	0.0	2152	-56 3.0	-61 41.0	441.2	0.5	270
21	1	1966	0.0	23 0	-56 3.0	-61 42.0	441.8	0.9	29
22	1	1966	0.0	018	-56 2.0	-61 41.0	442.9	1.1	48
22	1	1966	0.0	6 0	-55 58.0	-61 33.0	448.9	4.3	173
22	1	1966	0.0	8 8	-56 7.0	-61 31.0	458.0	0.0	90
22	1	1966	0.0	820	-56 7.0	-61 31.0	458.0	7.1	132
22	1	1966	0.0	845	-56 9.0	-61 27.0	461.0	9.5	134
22	1	1966	0.0	11 2	-56 24.0	-60 59.0	482.6	10.5	142
22	1	1966	0.0	1546	-57 3.0	-60 3.0	532.2	5.6	141
22	1	1966	0.0	1614	-57 5.0	-60 0.0	534.8	0.4	321
22	1	1966	0.0	2225	-57 3.0	-60 3.0	537.4	0.2	331
23	1	1966	0.0	440	-57 2.0	-60 4.0	538.5	4.8	96
23	1	1966	0.0	825	-57 4.0	-59 31.0	556.6	1.4	270
23	1	1966	0.0	912	-57 4.0	-59 33.0	557.7	4.4	62
23	1	1966	0.0	1134	-56 59.0	-59 16.0	568.2	1.6	90
23	1	1966	0.0	1237	-56 59.0	-59 13.0	569.8	8.6	166
23	1	1966	0.0	1613	-57 29.0	-58 59.0	600.8	0.9	20
23	1	1966	0.0	1935	-57 26.0	-58 57.0	604.0	8.2	96
23	1	1966	0.0	22 5	-57 28.0	-58 19.0	624.5	6.3	90

ELTANIN 22 PUNTA ARENAS TO PUNTA ARENAS

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
23	1	1966	0.0	2210	-57 28.0	-58 18.0	625.0	6.9	152
23	1	1966	0.0	2220	-57 29.0	-58 17.0	626.2	8.8	127
24	1	1966	0.0	3 0	-57 54.0	-57 16.0	667.3	7.1	122
24	1	1966	0.0	316	-57 55.0	-57 13.0	669.1	6.9	127
24	1	1966	0.0	345	-57 57.0	-57 8.0	672.5	5.8	133
24	1	1966	0.0	4 0	-57 58.0	-57 6.0	673.9	0.6	45
24	1	1966	0.0	2210	-57 50.0	-56 51.0	685.2	3.3	127
24	1	1966	0.0	2310	-57 52.0	-56 46.0	688.6	3.4	152
24	1	1966	0.0	2330	-57 53.0	-56 45.0	689.7	3.5	152
24	1	1966	0.0	2350	-57 54.0	-56 44.0	690.8	1.3	270
25	1	1966	0.0	247	-57 54.0	-56 51.0	694.5	0.0	90
25	1	1966	0.0	3 0	-57 54.0	-56 51.0	694.5	4.4	190
25	1	1966	0.0	342	-57 57.0	-56 52.0	697.6	2.6	180
25	1	1966	0.0	538	-58 2.0	-56 52.0	702.6	5.0	28
25	1	1966	0.0	552	-58 1.0	-56 51.0	703.7	5.4	90
25	1	1966	0.0	615	-58 1.0	-56 47.0	705.8	11.2	114
25	1	1966	0.0	8 0	-58 9.0	-56 13.0	725.5	9.5	127
25	1	1966	0.0	1425	-58 46.0	-54 40.0	786.6	4.7	90
25	1	1966	0.0	1438	-58 46.0	-54 38.0	787.7	9.3	126
25	1	1966	0.0	1638	-58 57.0	-54 9.0	806.3	6.2	116
25	1	1966	0.0	17 0	-58 58.0	-54 5.0	808.6	1.4	42
25	1	1966	0.0	2050	-58 54.0	-53 58.0	813.9	0.8	90
25	1	1966	0.0	2130	-58 54.0	-53 57.0	814.5	2.0	180
25	1	1966	0.0	22 0	-58 55.0	-53 57.0	815.5	0.7	72
26	1	1966	0.0	238	-58 54.0	-53 51.0	818.7	3.4	256
26	1	1966	0.0	5 0	-58 56.0	-54 6.0	826.7	1.4	237
26	1	1966	0.0	620	-58 57.0	-54 9.0	828.6	1.3	64
26	1	1966	0.0	8 8	-58 56.0	-54 5.0	830.9	5.1	199
26	1	1966	0.0	845	-58 59.0	-54 7.0	834.0	2.9	190
26	1	1966	0.0	948	-59 2.0	-54 8.0	837.1	1.6	27
26	1	1966	0.0	1030	-59 1.0	-54 7.0	838.2	8.9	90
26	1	1966	0.0	11 5	-59 1.0	-53 57.0	843.3	6.2	90
26	1	1966	0.0	1120	-59 1.0	-53 54.0	844.9	10.8	90
26	1	1966	0.0	1220	-59 1.0	-53 33.0	855.7	5.1	90
26	1	1966	0.0	1226	-59 1.0	-53 32.0	856.2	10.1	90
26	1	1966	0.0	1355	-59 1.0	-53 3.0	871.1	5.3	90
26	1	1966	0.0	14 7	-59 1.0	-53 1.0	872.2	10.0	90
26	1	1966	0.0	17 0	-59 1.0	-52 5.0	901.0	6.9	90
26	1	1966	0.0	1718	-59 1.0	-52 1.0	903.1	0.8	90
26	1	1966	0.0	1755	-59 1.0	-52 0.0	903.6	3.9	111
26	1	1966	0.0	1920	-59 3.0	-51 50.0	909.1	1.4	90
26	1	1966	0.0	1942	-59 3.0	-51 49.0	909.6	1.3	90
26	1	1966	0.0	2116	-59 3.0	-51 45.0	911.7	0.9	27
26	1	1966	0.0	2346	-59 1.0	-51 43.0	913.9	8.6	90
26	1	1966	0.0	2357	-59 1.0	-51 40.0	915.5	4.5	134
27	1	1966	0.0	054	-59 4.0	-51 34.0	919.8	3.6	139
27	1	1966	0.0	2 0	-59 7.0	-51 29.0	923.7	1.2	123
27	1	1966	0.0	335	-59 8.0	-51 26.0	925.5	6.1	346
27	1	1966	0.0	355	-59 6.0	-51 27.0	927.6	8.9	353
27	1	1966	0.0	1035	-58 7.0	-51 40.0	987.0	8.0	342

ELTANIN 22 PUNTA ARENAS TO PUNTA ARENAS

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
27	1	1966	0.0	1447	-57 35.0	-51 59.0	1020.6	9.5	345
27	1	1966	0.0	15 0	-57 33.0	-52 0.0	1022.6	1.1	90
27	1	1966	0.0	1630	-57 33.0	-51 57.0	1024.2	0.7	133
27	1	1966	0.0	2050	-57 35.0	-51 53.0	1027.2	4.5	238
27	1	1966	0.0	2115	-57 36.0	-51 56.0	1029.1	2.7	227
27	1	1966	0.0	2220	-57 38.0	-52 0.0	1032.0	2.2	227
27	1	1966	0.0	23 0	-57 39.0	-52 2.0	1033.5	4.4	203
28	1	1966	0.0	015	-57 44.0	-52 6.0	1038.9	1.0	208
28	1	1966	0.0	235	-57 46.0	-52 8.0	1041.2	1.6	122
28	1	1966	0.0	345	-57 47.0	-52 5.0	1043.1	8.0	0
28	1	1966	0.0	4 0	-57 45.0	-52 5.0	1045.1	9.7	5
28	1	1966	0.0	730	-57 11.0	-52 0.0	1079.2	9.2	0
28	1	1966	0.0	15 5	-56 1.0	-52 0.0	1149.2	4.0	0
28	1	1966	0.0	1520	-56 0.0	-52 0.0	1150.2	1.1	48
29	1	1966	0.0	545	-55 49.0	-51 38.0	1166.7	3.5	215
29	1	1966	0.0	710	-55 53.0	-51 43.0	1171.6	1.4	217
29	1	1966	0.0	955	-55 56.0	-51 47.0	1175.3	0.5	90
29	1	1966	0.0	11 0	-55 56.0	-51 46.0	1175.9	4.5	90
29	1	1966	0.0	12 0	-55 56.0	-51 38.0	1180.4	3.4	98
29	1	1966	0.0	14 0	-55 57.0	-51 26.0	1187.1	4.5	90
29	1	1966	0.0	1415	-55 57.0	-51 24.0	1188.3	11.6	343
29	1	1966	0.0	20 0	-54 53.0	-51 58.0	1255.1	10.5	357
29	1	1966	0.0	2155	-54 33.0	-52 0.0	1275.1	4.8	0
29	1	1966	0.0	2220	-54 31.0	-52 0.0	1277.1	0.7	57
30	1	1966	0.0	632	-54 28.0	-51 52.0	1282.7	4.5	159
30	1	1966	0.0	715	-54 31.0	-51 50.0	1285.9	4.4	155
30	1	1966	0.0	830	-54 36.0	-51 46.0	1291.4	1.0	90
30	1	1966	0.0	9 5	-54 36.0	-51 45.0	1292.0	0.0	90
30	1	1966	0.0	913	-54 36.0	-51 45.0	1292.0	5.5	147
30	1	1966	0.0	1045	-54 43.0	-51 37.0	1300.4	1.5	139
30	1	1966	0.0	1230	-54 45.0	-51 34.0	1303.0	1.2	30
30	1	1966	0.0	1327	-54 44.0	-51 33.0	1304.2	6.1	342
30	1	1966	0.0	15 0	-54 35.0	-51 38.0	1313.6	10.0	346
30	1	1966	0.0	1753	-54 7.0	-51 50.0	1342.5	5.1	339
30	1	1966	0.0	1831	-54 4.0	-51 52.0	1345.7	4.7	240
30	1	1966	0.0	1948	-54 7.0	-52 1.0	1351.8	1.0	270
30	1	1966	0.0	21 0	-54 7.0	-52 3.0	1353.0	1.2	90
30	1	1966	0.0	2230	-54 7.0	-52 0.0	1354.7	1.9	247
31	1	1966	0.0	113	-54 9.0	-52 8.0	1359.8	4.0	293
31	1	1966	0.0	230	-54 7.0	-52 16.0	1364.9	1.8	270
31	1	1966	0.0	250	-54 7.0	-52 17.0	1365.5	0.6	90
31	1	1966	0.0	444	-54 7.0	-52 15.0	1366.7	7.0	11
31	1	1966	0.0	510	-54 4.0	-52 14.0	1369.7	8.2	3
31	1	1966	0.0	9 5	-53 32.0	-52 11.0	1401.8	4.2	17
31	1	1966	0.0	935	-53 30.0	-52 10.0	1403.9	0.9	50
31	1	1966	0.0	1120	-53 29.0	-52 8.0	1405.4	4.6	218
31	1	1966	0.0	13 0	-53 35.0	-52 16.0	1413.1	1.6	230
31	1	1966	0.0	14 0	-53 36.0	-52 18.0	1414.6	1.2	90
31	1	1966	0.0	15 0	-53 36.0	-52 16.0	1415.8	1.3	71
31	1	1966	0.0	1730	-53 35.0	-52 11.0	1418.9	7.2	0

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
31	1	1966	0.0	1755	-53 32.0	-52 11.0	1421.9	[illegible]	3
1	2	1966	0.0	0 1	-52 32.0	-52 6.0	1482.0	8.1	4
1	2	1966	0.0	2 0	-52 16.0	-52 4.0	1498.1	4.0	0
1	2	1966	0.0	230	-52 14.0	-52 4.0	1500.1	0.9	171
1	2	1966	0.0	1155	-52 22.0	-52 2.0	1508.2	4.8	246
1	2	1966	0.0	14 0	-52 26.0	-52 17.0	1518.1	1.7	241
1	2	1966	0.0	1630	-52 28.0	-52 23.0	1522.3	1.3	129
1	2	1966	0.0	1745	-52 29.0	-52 21.0	1523.9	3.1	235
1	2	1966	0.0	1925	-52 32.0	-52 28.0	1529.1	0.0	90
1	2	1966	0.0	1934	-52 32.0	-52 28.0	1529.1	1.2	90
1	2	1966	0.0	2035	-52 32.0	-52 26.0	1530.3	9.4	31
1	2	1966	0.0	2050	-52 30.0	-52 24.0	1532.7	10.7	12
1	2	1966	0.0	2210	-52 16.0	-52 19.0	1547.0	6.2	17
1	2	1966	0.0	2230	-52 14.0	-52 18.0	1549.1	9.2	12
2	2	1966	0.0	030	-51 56.0	-52 12.0	1567.4	5.1	22
2	2	1966	0.0	1 8	-51 53.0	-52 10.0	1570.7	10.0	11
2	2	1966	0.0	4 0	-51 25.0	-52 1.0	1599.2	8.0	12
2	2	1966	0.0	423	-51 22.0	-52 0.0	1602.3	9.2	11
2	2	1966	0.0	649	-51 0.0	-51 53.0	1624.7	3.7	32
2	2	1966	0.0	7 8	-50 59.0	-51 52.0	1625.9	0.6	90
2	2	1966	0.0	815	-50 59.0	-51 51.0	1626.5	7.7	90
2	2	1966	0.0	835	-50 59.0	-51 47.0	1629.1	9.7	90
2	2	1966	0.0	1130	-50 59.0	-51 2.0	1657.4	4.0	90
2	2	1966	0.0	12 8	-50 59.0	-50 58.0	1659.9	10.0	89
2	2	1966	0.0	2052	-50 57.0	-48 40.0	1746.8	6.0	90
2	2	1966	0.0	2117	-50 57.0	-48 36.0	1749.4	8.2	90
2	2	1966	0.0	2140	-50 57.0	-48 31.0	1752.5	5.6	90
2	2	1966	0.0	22 0	-50 57.0	-48 28.0	1754.4	10.1	90
2	2	1966	0.0	2315	-50 57.0	-48 8.0	1767.0	9.4	92
3	2	1966	0.0	7 0	-50 59.0	-46 12.0	1840.1	8.5	90
3	2	1966	0.0	727	-50 59.0	-46 6.0	1843.9	0.0	90
3	2	1966	0.0	745	-50 59.0	-46 6.0	1843.9	0.6	32
3	2	1966	0.0	946	-50 58.0	-46 5.0	1845.0	5.2	90
3	2	1966	0.0	1015	-50 58.0	-46 1.0	1847.6	10.3	91
3	2	1966	0.0	2052	-51 0.0	-43 7.0	1957.1	3.7	90
3	2	1966	0.0	2112	-51 0.0	-43 5.0	1958.4	9.5	90
3	2	1966	0.0	2120	-51 0.0	-43 3.0	1959.6	0.8	90
3	2	1966	0.0	2210	-51 0.0	-43 2.0	1960.3	9.3	95
4	2	1966	0.0	720	-51 8.0	-40 47.0	2045.5	9.3	75
4	2	1966	0.0	1020	-51 1.0	-40 4.0	2073.4	4.4	68
4	2	1966	0.0	1057	-51 0.0	-40 0.0	2076.1	1.9	75
4	2	1966	0.0	15 0	-50 58.0	-39 48.0	2083.9	1.3	236
5	2	1966	0.0	223	-51 6.0	-40 7.0	2098.3	5.3	339
5	2	1966	0.0	4 0	-50 58.0	-40 12.0	2106.9	1.3	337
5	2	1966	0.0	630	-50 55.0	-40 14.0	2110.1	4.2	342
5	2	1966	0.0	9 0	-50 45.0	-40 19.0	2120.6	1.5	342
5	2	1966	0.0	1024	-50 43.0	-40 20.0	2122.7	7.5	162
5	2	1966	0.0	1041	-50 45.0	-40 19.0	2124.8	11.4	164
5	2	1966	0.0	1130	-50 54.0	-40 15.0	2134.2	6.1	168
5	2	1966	0.0	12 0	-50 57.0	-40 14.0	2137.2	11.8	165

ELTANIN 22 PUNTA ARENAS TO PUNTA ARENAS

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
5	2	1966	0.0	15 0	-51 31.0	-39 59.0	2172.5	10.5	180
5	2	1966	0.0	1735	-51 58.0	-39 59.0	2199.5	6.0	180
5	2	1966	0.0	1755	-52 0.0	-39 59.0	2201.5	0.6	90
5	2	1966	0.0	19 0	-52 0.0	-39 58.0	2202.1	0.9	231
5	2	1966	0.0	2051	-52 1.0	-40 0.0	2203.7	5.7	197
5	2	1966	0.0	2113	-52 3.0	-40 1.0	2205.8	10.0	180
6	2	1966	0.0	3 0	-53 1.0	-40 1.0	2263.8	8.0	180
6	2	1966	0.0	315	-53 3.0	-40 1.0	2265.8	0.5	191
6	2	1966	0.0	850	-53 6.0	-40 2.0	2268.9	0.3	124
6	2	1966	0.0	2025	-53 8.0	-39 57.0	2272.5	4.3	207
6	2	1966	0.0	2215	-53 15.0	-40 3.0	2280.3	2.8	197
6	2	1966	0.0	23 0	-53 17.0	-40 4.0	2282.4	6.3	119
6	2	1966	0.0	2320	-53 18.0	-40 1.0	2284.5	9.5	130
7	2	1966	0.0	348	-53 45.0	-39 6.0	2326.9	6.0	134
7	2	1966	0.0	445	-53 49.0	-38 59.0	2332.6	4.7	90
7	2	1966	0.0	715	-53 49.0	-38 39.0	2344.4	7.1	90
7	2	1966	0.0	730	-53 49.0	-38 36.0	2346.2	10.1	90
7	2	1966	0.0	1036	-53 49.0	-37 43.0	2377.5	10.5	104
7	2	1966	0.0	11 0	-53 50.0	-37 36.0	2381.8	9.8	111
7	2	1966	0.0	1135	-53 52.0	-37 27.0	2387.4	5.1	130
7	2	1966	0.0	1153	-53 53.0	-37 25.0	2389.0	10.5	109
7	2	1966	0.0	1211	-53 54.0	-37 20.0	2392.1	5.5	214
7	2	1966	0.0	1330	-54 0.0	-37 27.0	2399.4	0.0	90
7	2	1966	0.0	18 0	-54 0.0	-37 27.0	2399.4	8.3	22
7	2	1966	0.0	1918	-53 50.0	-37 20.0	2410.2	9.6	270
7	2	1966	0.0	1940	-53 50.0	-37 26.0	2413.7	1.8	90
7	2	1966	0.0	20 0	-53 50.0	-37 25.0	2414.3	3.1	164
7	2	1966	0.0	2040	-53 52.0	-37 24.0	2416.4	0.0	90
7	2	1966	0.0	2047	-53 52.0	-37 24.0	2416.4	10.4	277
7	2	1966	0.0	2135	-53 51.0	-37 38.0	2424.7	2.9	130
7	2	1966	0.0	22 7	-53 52.0	-37 36.0	2426.3	3.4	90
7	2	1966	0.0	2217	-53 52.0	-37 35.0	2426.8	9.2	275
7	2	1966	0.0	2330	-53 51.0	-37 54.0	2438.1	9.7	270
8	2	1966	0.0	130	-53 51.0	-38 27.0	2457.6	8.9	221
8	2	1966	0.0	437	-54 12.0	-38 58.0	2485.4	5.0	226
8	2	1966	0.0	545	-54 16.0	-39 5.0	2491.1	8.9	225
8	2	1966	0.0	730	-54 27.0	-39 24.0	2506.7	2.0	90
8	2	1966	0.0	748	-54 27.0	-39 23.0	2507.3	4.6	164
8	2	1966	0.0	815	-54 29.0	-39 22.0	2509.3	3.3	150
8	2	1966	0.0	857	-54 31.0	-39 20.0	2511.7	2.7	90
8	2	1966	0.0	923	-54 31.0	-39 18.0	2512.8	10.3	218
8	2	1966	0.0	945	-54 34.0	-39 22.0	2516.6	9.5	224
8	2	1966	0.0	1325	-54 59.0	-40 4.0	2551.4	0.4	90
8	2	1966	0.0	15 0	-54 59.0	-40 3.0	2552.0	0.5	131
8	2	1966	0.0	18 0	-55 0.0	-40 1.0	2553.5	0.9	106
8	2	1966	0.0	22 0	-55 1.0	-39 55.0	2557.1	3.1	150
9	2	1966	0.0	1 0	-55 9.0	-39 47.0	2566.3	4.0	180
9	2	1966	0.0	115	-55 10.0	-39 47.0	2567.3	0.8	90
9	2	1966	0.0	240	-55 10.0	-39 45.0	2568.5	3.4	107
9	2	1966	0.0	410	-55 15.0	-39 43.0	2573.6	0.0	90

ELTANIN 22 PUNTA ARENAS TO PUNTA ARENAS

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
9	2	1966	0.0	425	-55 15.0	-39 43.0	2573.6	6.4	180
9	2	1966	0.0	444	-55 17.0	-39 43.0	2575.6	7.0	171
9	2	1966	0.0	1012	-55 55.0	-39 32.0	2614.1	11.1	196
9	2	1966	0.0	1023	-55 57.0	-39 33.0	2616.2	3.9	180
9	2	1966	0.0	1054	-55 59.0	-39 33.0	2618.2	10.1	193
9	2	1966	0.0	1647	-56 57.0	-39 57.0	2677.7	5.8	200
9	2	1966	0.0	1720	-57 0.0	-39 59.0	2680.9	0.9	90
9	2	1966	0.0	1830	-57 0.0	-39 57.0	2681.9	0.5	59
9	2	1966	0.0	22 0	-56 59.0	-39 54.0	2683.9	7.5	180
9	2	1966	0.0	2216	-57 1.0	-39 54.0	2685.9	9.4	185
10	2	1966	0.0	715	-58 25.0	-40 7.0	2770.1	9.1	175
10	2	1966	0.0	1040	-58 56.0	-40 2.0	2801.3	6.1	166
10	2	1966	0.0	11 0	-58 58.0	-40 1.0	2803.3	10.7	180
10	2	1966	0.0	11 6	-58 59.0	-40 1.0	2804.3	0.8	90
10	2	1966	0.0	13 0	-58 59.0	-39 58.0	2805.9	4.0	180
10	2	1966	0.0	1315	-59 0.0	-39 58.0	2806.9	0.8	53
11	2	1966	0.0	0 1	-58 55.0	-39 45.0	2815.2	4.2	153
11	2	1966	0.0	122	-59 0.0	-39 40.0	2820.9	2.4	148
11	2	1966	0.0	350	-59 5.0	-39 34.0	2826.7	2.0	116
11	2	1966	0.0	610	-59 7.0	-39 26.0	2831.3	1.2	180
11	2	1966	0.0	7 0	-59 8.0	-39 26.0	2832.3	0.5	90
11	2	1966	0.0	8 5	-59 8.0	-39 25.0	2832.8	10.8	202
11	2	1966	0.0	835	-59 13.0	-39 29.0	2838.2	9.8	190
11	2	1966	0.0	18 0	-60 44.0	-40 1.0	2930.6	9.6	178
11	2	1966	0.0	1922	-60 57.0	-40 0.0	2943.6	3.8	180
11	2	1966	0.0	1953	-60 59.0	-40 0.0	2945.6	0.0	90
11	2	1966	0.0	1955	-60 59.0	-40 0.0	2945.6	12.0	180
11	2	1966	0.0	2010	-61 2.0	-40 0.0	2948.6	0.8	130
12	2	1966	0.0	020	-61 4.0	-39 55.0	2951.8	3.3	125
12	2	1966	0.0	123	-61 6.0	-39 49.0	2955.3	1.9	109
12	2	1966	0.0	3 0	-61 7.0	-39 43.0	2958.4	1.8	136
12	2	1966	0.0	347	-61 8.0	-39 41.0	2959.7	2.3	169
12	2	1966	0.0	6 0	-61 13.0	-39 39.0	2964.8	1.9	166
12	2	1966	0.0	7 5	-61 15.0	-39 38.0	2966.9	0.0	90
12	2	1966	0.0	718	-61 15.0	-39 38.0	2966.9	5.3	185
12	2	1966	0.0	815	-61 20.0	-39 39.0	2971.9	10.3	188
12	2	1966	0.0	17 0	-62 49.0	-40 6.0	3061.8	10.2	170
12	2	1966	0.0	18 0	-62 59.0	-40 2.0	3072.0	8.2	167
12	2	1966	0.0	1830	-63 3.0	-40 0.0	3076.1	0.9	125
13	2	1966	0.0	720	-63 10.0	-39 38.0	3088.2	0.3	270
13	2	1966	0.0	10 0	-63 10.0	-39 40.0	3089.1	6.7	204
13	2	1966	0.0	1020	-63 12.0	-39 42.0	3091.3	4.3	212
13	2	1966	0.0	1142	-63 17.0	-39 49.0	3097.2	1.4	214
13	2	1966	0.0	1325	-63 19.0	-39 52.0	3099.7	1.6	107
13	2	1966	0.0	1750	-63 21.0	-39 37.0	3106.7	3.1	233
13	2	1966	0.0	20 0	-63 25.0	-39 49.0	3113.4	1.3	222
13	2	1966	0.0	21 0	-63 26.0	-39 51.0	3114.7	5.6	24
13	2	1966	0.0	2112	-63 25.0	-39 50.0	3115.8	10.3	37
14	2	1966	0.0	043	-62 56.0	-39 2.0	3152.0	10.1	26
14	2	1966	0.0	6 0	-62 8.0	-38 12.0	3205.3	9.4	35

ELTANIN 22 PUNTA ARENAS TO PUNTA ARENAS

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
14	2	1966	0.0	647	-62 2.0	-38 3.0	3212.6	5.6	32
14	2	1966	0.0	725	-61 59.0	-37 59.0	3216.1	0.8	176
14	2	1966	0.0	1623	-62 6.0	-37 58.0	3223.2	3.9	242
14	2	1966	0.0	18 0	-62 9.0	-38 10.0	3229.5	0.0	90
14	2	1966	0.0	18 5	-62 9.0	-38 10.0	3229.5	1.1	270
14	2	1966	0.0	1830	-62 9.0	-38 11.0	3230.0	3.0	227
14	2	1966	0.0	20 0	-62 12.0	-38 18.0	3234.4	1.5	215
14	2	1966	0.0	2310	-62 16.0	-38 24.0	3239.3	5.5	43
14	2	1966	0.0	2325	-62 15.0	-38 22.0	3240.7	10.1	32
15	2	1966	0.0	418	-61 33.0	-37 27.0	3290.0	9.6	36
15	2	1966	0.0	6 6	-61 19.0	-37 6.0	3307.2	7.4	33
15	2	1966	0.0	9 0	-61 1.0	-36 42.0	3328.6	8.7	18
15	2	1966	0.0	1610	-60 2.0	-36 2.0	3390.8	7.5	27
15	2	1966	0.0	1628	-60 0.0	-36 0.0	3393.1	1.4	270
15	2	1966	0.0	1650	-60 0.0	-36 1.0	3393.6	0.4	166
15	2	1966	0.0	2135	-60 2.0	-36 0.0	3395.6	0.3	153
16	2	1966	0.0	047	-60 3.0	-35 59.0	3396.7	2.3	207
16	2	1966	0.0	215	-60 6.0	-36 2.0	3400.1	1.8	198
16	2	1966	0.0	4 0	-60 9.0	-36 4.0	3403.3	2.8	135
16	2	1966	0.0	430	-60 10.0	-36 2.0	3404.7	6.9	90
16	2	1966	0.0	5 5	-60 10.0	-35 54.0	3408.6	10.3	100
16	2	1966	0.0	540	-60 11.0	-35 42.0	3414.7	9.3	83
16	2	1966	0.0	815	-60 8.0	-34 54.0	3438.8	8.9	83
16	2	1966	0.0	10 0	-60 6.0	-34 23.0	3454.3	10.1	85
16	2	1966	0.0	1220	-60 4.0	-33 36.0	3477.9	10.5	77
16	2	1966	0.0	1336	-60 1.0	-33 10.0	3491.2	4.5	90
16	2	1966	0.0	1356	-60 1.0	-33 7.0	3492.7	11.5	68
16	2	1966	0.0	1410	-60 0.0	-33 2.0	3495.4	4.5	90
16	2	1966	0.0	1430	-60 0.0	-32 59.0	3496.9	1.2	143
16	2	1966	0.0	1636	-60 2.0	-32 56.0	3499.4	3.7	270
16	2	1966	0.0	17 0	-60 2.0	-32 59.0	3500.9	1.2	270
16	2	1966	0.0	1750	-60 2.0	-33 1.0	3501.9	3.0	270
16	2	1966	0.0	1810	-60 2.0	-33 3.0	3502.9	1.0	270
16	2	1966	0.0	1840	-60 2.0	-33 4.0	3503.4	1.5	90
16	2	1966	0.0	19 0	-60 2.0	-33 3.0	3503.9	6.4	90
16	2	1966	0.0	19 5	-60 2.0	-33 2.0	3504.4	11.0	90
16	2	1966	0.0	2048	-60 2.0	-32 24.0	3523.4	7.4	90
16	2	1966	0.0	21 0	-60 2.0	-32 21.0	3524.9	10.8	90
17	2	1966	0.0	210	-60 2.0	-30 29.0	3580.8	9.4	90
17	2	1966	0.0	345	-60 2.0	-29 59.0	3595.8	0.8	142
17	2	1966	0.0	1457	-60 9.0	-29 48.0	3604.7	4.0	270
17	2	1966	0.0	16 5	-60 9.0	-29 57.0	3609.2	1.7	243
17	2	1966	0.0	1725	-60 10.0	-30 1.0	3611.4	1.4	225
17	2	1966	0.0	1825	-60 11.0	-30 3.0	3612.8	5.6	270
17	2	1966	0.0	1955	-60 11.0	-30 20.0	3621.3	4.2	270
17	2	1966	0.0	2023	-60 11.0	-30 24.0	3623.2	6.4	56
17	2	1966	0.0	2040	-60 10.0	-30 21.0	3625.0	10.1	68
18	2	1966	0.0	623	-59 34.0	-27 20.0	3722.8	6.3	45
18	2	1966	0.0	637	-59 33.0	-27 18.0	3724.2	3.7	11
18	2	1966	0.0	8 0	-59 28.0	-27 16.0	3729.3	0.0	90

ELTANIN 22 PUNTA ARENAS TO PUNTA ARENAS

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
18	2	1966	0.0	1647	-59 28.0	-27 16.0	3729.3	4.6	180
18	2	1966	0.0	17 0	-59 29.0	-27 16.0	3730.3	5.2	199
18	2	1966	0.0	1737	-59 32.0	-27 18.0	3733.5	4.4	180
18	2	1966	0.0	1818	-59 35.0	-27 18.0	3736.5	2.2	180
18	2	1966	0.0	1912	-59 37.0	-27 18.0	3738.5	1.8	90
18	2	1966	0.0	1945	-59 37.0	-27 16.0	3739.5	6.8	153
18	2	1966	0.0	20 5	-59 39.0	-27 14.0	3741.7	11.2	156
18	2	1966	0.0	2052	-59 47.0	-27 7.0	3750.5	10.9	158
19	2	1966	0.0	415	-61 2.0	-26 7.0	3831.1	5.4	125
19	2	1966	0.0	435	-61 3.0	-26 4.0	3832.9	1.4	270
19	2	1966	0.0	515	-61 3.0	-26 6.0	3833.8	0.5	321
19	2	1966	0.0	1254	-61 0.0	-26 11.0	3837.7	0.9	202
19	2	1966	0.0	20 0	-61 6.0	-26 16.0	3844.2	4.4	117
19	2	1966	0.0	2030	-61 7.0	-26 12.0	3846.3	9.5	107
20	2	1966	0.0	520	-61 31.0	-23 25.0	3930.0	6.9	90
20	2	1966	0.0	630	-61 31.0	-23 8.0	3938.1	2.2	90
20	2	1966	0.0	656	-61 31.0	-23 6.0	3939.1	0.1	270
20	2	1966	0.0	1127	-61 31.0	-23 7.0	3939.5	7.0	144
20	2	1966	0.0	1148	-61 33.0	-23 4.0	3942.0	9.5	122
20	2	1966	0.0	1545	-61 53.0	-21 57.0	3979.5	5.3	125
20	2	1966	0.0	16 5	-61 54.0	-21 54.0	3981.2	9.2	120
20	2	1966	0.0	2218	-62 23.0	-20 8.0	4038.6	3.0	137
20	2	1966	0.0	2245	-62 24.0	-20 6.0	4040.0	3.9	10
21	2	1966	0.0	050	-62 16.0	-20 3.0	4048.1	3.1	32
21	2	1966	0.0	158	-62 13.0	-19 59.0	4051.7	2.2	25
21	2	1966	0.0	425	-62 8.0	-19 54.0	4057.2	9.5	148
21	2	1966	0.0	610	-62 22.0	-19 35.0	4073.7	9.2	118
21	2	1966	0.0	8 0	-62 30.0	-19 3.0	4090.6	0.4	0
22	2	1966	0.0	010	-62 24.0	-19 3.0	4096.6	0.6	335
22	2	1966	0.0	2 8	-62 23.0	-19 4.0	4097.7	4.0	33
22	2	1966	0.0	430	-62 15.0	-18 53.0	4107.2	2.5	150
22	2	1966	0.0	620	-62 19.0	-18 48.0	4111.8	2.9	325
22	2	1966	0.0	8 0	-62 15.0	-18 54.0	4116.7	1.1	270
22	2	1966	0.0	850	-62 15.0	-18 56.0	4117.6	7.1	137
22	2	1966	0.0	913	-62 17.0	-18 52.0	4120.3	10.0	114
22	2	1966	0.0	17 0	-62 49.0	-16 18.0	4198.2	10.5	110
22	2	1966	0.0	2038	-63 2.0	-14 59.0	4236.4	8.8	114
22	2	1966	0.0	2055	-63 3.0	-14 54.0	4238.9	0.8	90
22	2	1966	0.0	2130	-63 3.0	-14 53.0	4239.4	0.6	270
22	2	1966	0.0	2345	-63 3.0	-14 56.0	4240.7	0.3	234
23	2	1966	0.0	928	-63 5.0	-15 2.0	4244.1	6.5	54
23	2	1966	0.0	1030	-63 1.0	-14 50.0	4250.8	3.2	100
23	2	1966	0.0	1223	-63 2.0	-14 37.0	4256.8	1.0	49
23	2	1966	0.0	1530	-63 0.0	-14 32.0	4259.9	0.7	180
23	2	1966	0.0	2136	-63 4.0	-14 32.0	4263.8	8.0	0
23	2	1966	0.0	22 6	-63 0.0	-14 32.0	4267.8	11.2	13
23	2	1966	0.0	2228	-62 56.0	-14 30.0	4272.0	8.2	0
23	2	1966	0.0	2250	-62 53.0	-14 30.0	4274.9	6.6	0
24	2	1966	0.0	030	-62 42.0	-14 30.0	4285.9	6.7	25
24	2	1966	0.0	040	-62 41.0	-14 29.0	4287.0	5.2	0

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
24	2	1966	0.0	2 0	-62 34.0	-14 29.0	4294.0	6.1	0
24	2	1966	0.0	220	-62 32.0	-14 29.0	4296.0	4.8	357
24	2	1966	0.0	4 0	-62 24.0	-14 30.0	4304.1	9.9	353
24	2	1966	0.0	810	-61 43.0	-14 41.0	4345.4	11.6	0
24	2	1966	0.0	815	-61 42.0	-14 41.0	4346.4	9.0	352
24	2	1966	0.0	1030	-61 22.0	-14 47.0	4366.6	3.0	0
24	2	1966	0.0	1050	-61 21.0	-14 47.0	4367.6	9.6	0
24	2	1966	0.0	1415	-60 48.0	-14 47.0	4400.6	7.5	0
24	2	1966	0.0	1423	-60 47.0	-14 47.0	4401.6	9.0	0
24	2	1966	0.0	1750	-60 16.0	-14 47.0	4432.6	10.6	339
24	2	1966	0.0	1915	-60 2.0	-14 58.0	4447.6	6.8	333
24	2	1966	0.0	1935	-60 0.0	-15 0.0	4449.9	0.9	143
25	2	1966	0.0	640	-60 8.0	-14 48.0	4459.8	6.5	171
25	2	1966	0.0	7 8	-60 11.0	-14 47.0	4462.9	1.0	63
25	2	1966	0.0	1135	-60 9.0	-14 39.0	4467.3	1.4	186
25	2	1966	0.0	1513	-60 14.0	-14 40.0	4472.4	2.3	230
25	2	1966	0.0	1840	-60 19.0	-14 52.0	4480.1	1.0	26
25	2	1966	0.0	1950	-60 18.0	-14 51.0	4481.2	4.7	0
25	2	1966	0.0	2015	-60 16.0	-14 51.0	4483.2	6.0	0
25	2	1966	0.0	2045	-60 13.0	-14 51.0	4486.2	4.1	346
25	2	1966	0.0	2115	-60 11.0	-14 52.0	4488.3	3.6	0
25	2	1966	0.0	2132	-60 10.0	-14 52.0	4489.3	3.4	1
26	2	1966	0.0	941	-59 29.0	-14 51.0	4530.3	3.7	0
26	2	1966	0.0	1030	-59 26.0	-14 51.0	4533.3	4.4	356
26	2	1966	0.0	12 5	-59 19.0	-14 52.0	4540.3	3.3	0
26	2	1966	0.0	13 0	-59 16.0	-14 52.0	4543.3	4.8	356
27	2	1966	0.0	1850	-56 53.0	-15 9.0	4686.6	5.1	337
28	2	1966	0.0	625	-55 59.0	-15 51.0	4745.4	6.6	345
28	2	1966	0.0	828	-55 46.0	-15 57.0	4758.8	7.0	358
28	2	1966	0.0	14 0	-55 7.0	-16 0.0	4797.9	11.5	67
28	2	1966	0.0	1735	-54 51.0	-14 54.0	4839.0	3.4	167
28	2	1966	0.0	19 5	-54 56.0	-14 52.0	4844.1	2.3	144
28	2	1966	0.0	2115	-55 0.0	-14 47.0	4849.0	0.4	164
1	3	1966	0.0	9 0	-55 4.0	-14 45.0	4853.2	6.8	251
1	3	1966	0.0	927	-55 5.0	-14 50.0	4856.2	5.2	249
1	3	1966	0.0	1030	-55 7.0	-14 59.0	4861.7	5.0	258
1	3	1966	0.0	1127	-55 8.0	-15 7.0	4866.4	2.1	254
1	3	1966	0.0	1452	-55 10.0	-15 19.0	4873.6	6.7	254
1	3	1966	0.0	17 0	-55 14.0	-15 43.0	4887.8	9.5	259
1	3	1966	0.0	1915	-55 18.0	-16 20.0	4909.3	5.9	270
1	3	1966	0.0	1950	-55 18.0	-16 26.0	4912.7	9.4	283
2	3	1966	0.0	5 0	-55 29.0	-18 56.0	4998.6	6.0	251
2	3	1966	0.0	530	-55 30.0	-19 1.0	5001.6	0.7	19
2	3	1966	0.0	1245	-55 25.0	-18 58.0	5006.9	4.3	0
2	3	1966	0.0	13 0	-55 24.0	-18 58.0	5007.9	0.8	43
2	3	1966	0.0	1830	-55 21.0	-18 53.0	5012.0	4.1	354
2	3	1966	0.0	2040	-55 13.0	-19 0.0	5021.0	1.4	359
2	3	1966	0.0	2255	-55 10.0	-19 2.0	5024.2	0.7	30
3	3	1966	0.0	030	-55 9.0	-19 1.0	5025.3	5.0	246
3	3	1966	0.0	1 0	-55 10.0	-19 5.0	5027.8	7.1	240

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
3	3	1966	0.0	620	-55 23.0	-20 6.0	5064.9	4.5	251
3	3	1966	0.0	7 0	-55 24.0	-20 11.0	5067.9	10.4	250
3	3	1966	0.0	930	-55 33.0	-20 54.0	5093.9	11.0	240
3	3	1966	0.0	14 0	-55 58.0	-22 10.0	5143.4	1.0	270
3	3	1966	0.0	1435	-55 58.0	-22 11.0	5144.0	0.5	312
3	3	1966	0.0	1725	-55 57.0	-22 13.0	5145.5	0.9	331
4	3	1966	0.0	426	-55 48.0	-22 22.0	5155.8	2.9	90
4	3	1966	0.0	645	-55 48.0	-22 10.0	5162.6	0.7	209
4	3	1966	0.0	820	-55 49.0	-22 11.0	5163.7	3.4	172
4	3	1966	0.0	930	-55 53.0	-22 10.0	5167.7	1.1	169
4	3	1966	0.0	1210	-55 56.0	-22 9.0	5170.8	7.6	270
4	3	1966	0.0	1232	-55 56.0	-22 14.0	5173.6	3.8	270
4	3	1966	0.0	1250	-55 56.0	-22 16.0	5174.7	9.3	254
4	3	1966	0.0	1450	-56 1.0	-22 48.0	5193.3	5.1	239
4	3	1966	0.0	1513	-56 2.0	-22 51.0	5195.3	9.9	253
4	3	1966	0.0	1720	-56 8.0	-23 27.0	5216.2	11.1	228
4	3	1966	0.0	18 0	-56 13.0	-23 37.0	5223.7	10.6	248
4	3	1966	0.0	22 0	-56 29.0	-24 48.0	5266.2	5.5	90
4	3	1966	0.0	2230	-56 29.0	-24 43.0	5268.9	0.8	112
5	3	1966	0.0	1144	-56 33.0	-24 25.0	5279.6	0.6	48
5	3	1966	0.0	2315	-56 28.0	-24 15.0	5287.1	4.4	180
6	3	1966	0.0	050	-56 35.0	-24 15.0	5294.1	4.0	183
6	3	1966	0.0	335	-56 46.0	-24 16.0	5305.1	1.5	48
6	3	1966	0.0	435	-56 45.0	-24 14.0	5306.6	6.5	270
6	3	1966	0.0	455	-56 45.0	-24 18.0	5308.8	9.4	284
6	3	1966	0.0	1515	-56 21.0	-27 9.0	5406.0	11.8	301
6	3	1966	0.0	1525	-56 20.0	-27 12.0	5408.0	5.1	301
6	3	1966	0.0	1548	-56 19.0	-27 15.0	5409.9	7.6	278
6	3	1966	0.0	1645	-56 18.0	-27 28.0	5417.2	1.6	209
6	3	1966	0.0	1728	-56 19.0	-27 29.0	5418.3	2.1	151
6	3	1966	0.0	18 0	-56 20.0	-27 28.0	5419.5	1.2	345
6	3	1966	0.0	1945	-56 18.0	-27 29.0	5421.6	10.6	63
6	3	1966	0.0	2035	-56 14.0	-27 15.0	5430.3	3.5	312
6	3	1966	0.0	21 0	-56 13.0	-27 17.0	5431.8	3.5	331
6	3	1966	0.0	2120	-56 12.0	-27 18.0	5432.9	0.0	90
6	3	1966	0.0	2140	-56 12.0	-27 18.0	5432.9	1.1	151
6	3	1966	0.0	2245	-56 13.0	-27 17.0	5434.1	10.6	300
7	3	1966	0.0	027	-56 4.0	-27 45.0	5452.1	5.6	209
7	3	1966	0.0	039	-56 5.0	-27 46.0	5453.2	3.2	242
7	3	1966	0.0	237	-56 8.0	-27 56.0	5459.6	0.6	331
7	3	1966	0.0	437	-56 7.0	-27 57.0	5460.7	6.4	239
7	3	1966	0.0	455	-56 8.0	-28 0.0	5462.7	8.2	254
7	3	1966	0.0	915	-56 18.0	-29 1.0	5498.0	5.3	256
7	3	1966	0.0	10 0	-56 19.0	-29 8.0	5502.0	6.7	270
7	3	1966	0.0	1220	-56 19.0	-29 36.0	5517.6	1.7	270
7	3	1966	0.0	1240	-56 19.0	-29 37.0	5518.1	7.2	270
7	3	1966	0.0	1413	-56 19.0	-29 57.0	5529.2	0.6	90
7	3	1966	0.0	15 5	-56 19.0	-29 56.0	5529.8	11.8	268
7	3	1966	0.0	18 0	-56 20.0	-30 58.0	5564.2	4.4	270
7	3	1966	0.0	1815	-56 20.0	-31 0.0	5565.3	9.2	274

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
7	3	1966	0.0	21 5	-56 18.0	-31 47.0	5591.4	5.6	270
7	3	1966	0.0	2129	-56 18.0	-31 51.0	5593.6	5.7	270
8	3	1966	0.0	0 1	-56 18.0	-32 18.0	5608.6	8.5	270
8	3	1966	0.0	155	-56 18.0	-32 47.0	5624.7	2.5	270
8	3	1966	0.0	5 0	-56 18.0	-33 1.0	5632.5	10.0	270
8	3	1966	0.0	8 0	-56 18.0	-33 55.0	5662.4	5.5	272
8	3	1966	0.0	1232	-56 17.0	-34 40.0	5687.4	10.2	270
8	3	1966	0.0	1410	-56 17.0	-35 10.0	5704.1	1.2	151
8	3	1966	0.0	19 0	-56 22.0	-35 5.0	5709.8	0.6	180
8	3	1966	0.0	2035	-56 23.0	-35 5.0	5710.8	5.2	226
8	3	1966	0.0	2230	-56 30.0	-35 18.0	5720.8	1.7	270
8	3	1966	0.0	2250	-56 30.0	-35 19.0	5721.4	0.0	90
8	3	1966	0.0	2310	-56 30.0	-35 19.0	5721.4	4.2	270
8	3	1966	0.0	2334	-56 30.0	-35 22.0	5723.0	8.0	285
9	3	1966	0.0	1 0	-56 27.0	-35 42.0	5734.5	7.8	283
9	3	1966	0.0	10 0	-56 11.0	-37 45.0	5804.5	8.8	270
9	3	1966	0.0	11 5	-56 11.0	-38 2.0	5814.0	6.8	283
9	3	1966	0.0	1145	-56 10.0	-38 10.0	5818.6	8.1	270
9	3	1966	0.0	1210	-56 10.0	-38 16.0	5821.9	7.3	274
9	3	1966	0.0	14 0	-56 9.0	-38 40.0	5835.3	0.6	132
9	3	1966	0.0	1915	-56 11.0	-38 36.0	5838.3	4.5	164
9	3	1966	0.0	2011	-56 15.0	-38 34.0	5842.4	2.1	180
9	3	1966	0.0	22 5	-56 19.0	-38 34.0	5846.4	1.2	90
9	3	1966	0.0	23 0	-56 19.0	-38 32.0	5847.6	11.7	270
9	3	1966	0.0	2340	-56 19.0	-38 46.0	5855.3	7.5	287
10	3	1966	0.0	640	-56 4.0	-40 17.0	5908.1	6.9	284
10	3	1966	0.0	715	-56 3.0	-40 24.0	5912.2	3.4	270
10	3	1966	0.0	735	-56 3.0	-40 26.0	5913.3	5.9	292
10	3	1966	0.0	830	-56 1.0	-40 35.0	5918.7	5.8	275
10	3	1966	0.0	1032	-56 0.0	-40 56.0	5930.5	12.4	275
10	3	1966	0.0	15 5	-55 55.0	-42 36.0	5986.7	0.6	107
10	3	1966	0.0	21 0	-55 56.0	-42 30.0	5990.2	6.2	320
10	3	1966	0.0	2242	-55 48.0	-42 42.0	6000.6	0.7	90
10	3	1966	0.0	2328	-55 48.0	-42 41.0	6001.2	3.9	270
10	3	1966	0.0	2345	-55 48.0	-42 43.0	6002.3	8.5	270
11	3	1966	0.0	1 0	-55 48.0	-43 2.0	6013.0	5.6	270
11	3	1966	0.0	2 0	-55 48.0	-43 12.0	6018.6	2.5	270
11	3	1966	0.0	550	-55 48.0	-43 29.0	6028.2	6.4	272
11	3	1966	0.0	15 0	-55 46.0	-45 13.0	6086.7	0.0	90
11	3	1966	0.0	1531	-55 46.0	-45 13.0	6086.7	5.7	270
11	3	1966	0.0	1636	-55 46.0	-45 24.0	6092.9	7.4	279
11	3	1966	0.0	1818	-55 44.0	-45 46.0	6105.4	10.1	270
11	3	1966	0.0	19 5	-55 44.0	-46 0.0	6113.3	4.5	270
11	3	1966	0.0	1920	-55 44.0	-46 2.0	6114.4	9.7	270
11	3	1966	0.0	22 0	-55 44.0	-46 48.0	6140.3	9.3	274
12	3	1966	0.0	051	-55 42.0	-47 35.0	6166.9	5.8	275
12	3	1966	0.0	510	-55 40.0	-48 19.0	6191.8	7.8	275
12	3	1966	0.0	818	-55 38.0	-49 2.0	6216.1	0.5	90
12	3	1966	0.0	1030	-55 38.0	-49 0.0	6217.2	7.2	276
12	3	1966	0.0	1530	-55 34.0	-50 3.0	6253.1	0.0	90

ELTANIN 22 PUNTA ARENAS TO PUNTA ARENAS

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
12	3	1966	0.0	16 0	-55 34.0	-50 3.0	6253.1	3.8	280
12	3	1966	0.0	1730	-55 33.0	-50 13.0	6258.8	0.9	270
12	3	1966	0.0	1846	-55 33.0	-50 15.0	6259.9	4.9	30
12	3	1966	0.0	19 0	-55 32.0	-50 14.0	6261.1	7.4	270
12	3	1966	0.0	1937	-55 32.0	-50 22.0	6265.6	7.6	277
13	3	1966	0.0	6 0	-55 22.0	-52 40.0	6344.5	9.5	270
13	3	1966	0.0	715	-55 22.0	-53 1.0	6356.4	1.4	109
13	3	1966	0.0	1130	-55 24.0	-52 51.0	6362.5	7.6	285
13	3	1966	0.0	1535	-55 16.0	-53 44.0	6393.6	1.2	83
13	3	1966	0.0	2220	-55 15.0	-53 30.0	6401.7	4.3	131
13	3	1966	0.0	2345	-55 19.0	-53 22.0	6407.7	2.1	90
14	3	1966	0.0	017	-55 19.0	-53 20.0	6408.9	4.5	294
14	3	1966	0.0	050	-55 18.0	-53 24.0	6411.4	7.9	300
14	3	1966	0.0	7 0	-54 54.0	-54 38.0	6460.0	3.5	330
14	3	1966	0.0	720	-54 53.0	-54 39.0	6461.2	0.9	74
14	3	1966	0.0	1130	-54 52.0	-54 33.0	6464.8	9.5	270
14	3	1966	0.0	1440	-54 52.0	-55 25.0	6494.	10.7	0
14	3	1966	0.0	1525	-54 44.0	-55 25.0	6502.	11.5	289
14	3	1966	0.0	1541	-54 43.0	-55 30.0	6505.8	0.0	90
14	3	1966	0.0	16 0	-54 43.0	-55 30.0	6505.8	2.8	251
14	3	1966	0.0	17 5	-54 44.0	-55 35.0	6508.8	1.7	229
14	3	1966	0.0	18 0	-54 45.0	-55 37.0	6510.3	9.8	279
14	3	1966	0.0	1915	-54 43.0	-55 58.0	6522.6	7.8	280
14	3	1966	0.0	20 0	-54 42.0	-56 8.0	6528.5	4.0	180
14	3	1966	0.0	2015	-54 43.0	-56 8.0	6529.5	0.0	90
14	3	1966	0.0	2020	-54 43.0	-56 8.0	6529.5	11.4	270
14	3	1966	0.0	2142	-54 43.0	-56 35.0	6545.1	5.7	270
14	3	1966	0.0	22 0	-54 43.0	-56 38.0	6546.8	2.8	330
14	3	1966	0.0	2225	-54 42.0	-56 39.0	6548.0	0.0	90
14	3	1966	0.0	2240	-54 42.0	-56 39.0	6548.0	11.4	275
14	3	1966	0.0	2335	-54 41.0	-56 57.0	6558.4	5.2	270
14	3	1966	0.0	2355	-54 41.0	-57 0.0	6560.2	3.9	270
15	3	1966	0.0	022	-54 41.0	-57 3.0	6561.9	3.8	270
15	3	1966	0.0	040	-54 41.0	-57 5.0	6563.1	1.2	0
15	3	1966	0.0	132	-54 40.0	-57 5.0	6564.1	6.4	330
15	3	1966	0.0	143	-54 39.0	-57 6.0	6565.2	3.0	270
15	3	1966	0.0	217	-54 39.0	-57 9.0	6566.9	4.2	270
15	3	1966	0.0	242	-54 39.0	-57 12.0	6568.7	4.3	300
15	3	1966	0.0	310	-54 38.0	-57 15.0	6570.7	7.1	297
15	3	1966	0.0	1415	-54 2.0	-59 15.0	6649.4	7.5	291
15	3	1966	0.0	15 0	-54 0.0	-59 24.0	6655.0	6.2	310
15	3	1966	0.0	1515	-53 59.0	-59 26.0	6656.6	6.0	293
15	3	1966	0.0	20 0	-53 48.0	-60 11.0	6685.3	5.5	286
15	3	1966	0.0	2120	-53 46.0	-60 23.0	6692.6	10.9	287
16	3	1966	0.0	920	-53 7.0	-63 52.0	6823.1	12.0	281
16	3	1966	0.0	16 0	-52 52.0	-66 3.0	6903.4	9.5	281
16	3	1966	0.0	2315	-52 39.0	-67 55.0	6972.4	11.4	315
17	3	1966	0.0	0 0	-52 33.0	-68 5.0	6980.9		

ELTANIN 23 PUNTA ARENAS TO AUCKLAND

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
1	4	1966	0.0	0 0	-53 26.0	-70 48.0	0.0	0.0	90
1	4	1966	0.0	0 3	-53 26.0	-70 48.0	0.0	12.7	188
1	4	1966	0.0	1 0	-53 38.0	-70 51.0	12.1	8.3	244
1	4	1966	0.0	435	-53 51.0	-71 36.0	41.8	5.8	270
1	4	1966	0.0	447	-53 51.0	-71 38.0	42.9	4.2	299
1	4	1966	0.0	516	-53 50.0	-71 41.0	45.0	0.0	90
1	4	1966	0.0	525	-53 50.0	-71 41.0	45.0	7.1	301
1	4	1966	0.0	1320	-53 21.0	-73 2.0	101.1	2.4	310
1	4	1966	0.0	1439	-53 19.0	-73 6.0	104.2	2.0	270
1	4	1966	0.0	1457	-53 19.0	-73 7.0	104.8	10.9	90
1	4	1966	0.0	15 0	-53 19.0	-73 6.0	105.4	11.2	306
1	4	1966	0.0	1856	-52 53.0	-74 5.0	149.4	5.0	329
1	4	1966	0.0	1910	-52 52.0	-74 6.0	150.5	3.3	299
1	4	1966	0.0	1948	-52 51.0	-74 9.0	152.6	4.2	329
1	4	1966	0.0	20 5	-52 50.0	-74 10.0	153.8	9.5	299
1	4	1966	0.0	2215	-52 40.0	-74 40.0	174.5	8.6	266
2	4	1966	0.0	148	-52 42.0	-75 30.0	204.9	9.7	182
2	4	1966	0.0	531	-53 18.0	-75 32.0	240.9	0.0	90
2	4	1966	0.0	6 6	-53 18.0	-75 32.0	240.9	6.4	180
2	4	1966	0.0	712	-53 25.0	-75 32.0	247.9	0.0	90
2	4	1966	0.0	722	-53 25.0	-75 32.0	247.9	1.7	90
2	4	1966	0.0	743	-53 25.0	-75 31.0	248.5	12.8	180
2	4	1966	0.0	839	-53 37.0	-75 31.0	260.5	5.9	187
2	4	1966	0.0	930	-53 42.0	-75 32.0	265.5	10.8	180
2	4	1966	0.0	1313	-54 22.0	-75 32.0	305.5	9.7	193
2	4	1966	0.0	1630	-54 53.0	-75 44.0	337.3	6.4	201
2	4	1966	0.0	17 0	-54 56.0	-75 46.0	340.5	3.6	196
2	4	1966	0.0	1845	-55 2.0	-75 49.0	346.7	1.3	90
2	4	1966	0.0	1940	-55 2.0	-75 47.0	347.9	6.2	196
2	4	1966	0.0	20 0	-55 4.0	-75 48.0	350.0	10.2	194
3	4	1966	0.0	828	-57 7.0	-76 41.0	476.5	4.5	200
3	4	1966	0.0	910	-57 10.0	-76 43.0	479.7	10.0	193
3	4	1966	0.0	1347	-57 55.0	-77 2.0	525.8	4.6	180
3	4	1966	0.0	14 0	-57 56.0	-77 2.0	526.8	3.6	236
3	4	1966	0.0	17 0	-58 2.0	-77 19.0	537.6	3.4	208
3	4	1966	0.0	1720	-58 3.0	-77 20.0	538.8	1.2	90
3	4	1966	0.0	1813	-58 3.0	-77 18.0	539.8	7.2	195
3	4	1966	0.0	1830	-58 5.0	-77 19.0	541.9	9.4	189
3	4	1966	0.0	23 0	-58 47.0	-77 31.0	584.4	9.4	197
4	4	1966	0.0	040	-59 2.0	-77 40.0	600.1	9.6	193
4	4	1966	0.0	1330	-61 2.0	-78 34.0	723.1	15.8	184
4	4	1966	0.0	1357	-61 9.0	-78 35.0	730.1	11.0	191
4	4	1966	0.0	2157	-62 35.0	-79 11.0	817.7	9.0	193
4	4	1966	0.0	2319	-62 47.0	-79 17.0	830.0	9.4	205
4	4	1966	0.0	2326	-62 48.0	-79 18.0	831.1	12.1	189
4	4	1966	0.0	2341	-62 51.0	-79 19.0	834.2	3.1	205
5	4	1966	0.0	0 2	-62 52.0	-79 20.0	835.3	9.4	192
5	4	1966	0.0	7 6	-63 57.0	-79 50.0	901.7	8.2	192
5	4	1966	0.0	721	-63 59.0	-79 51.0	903.7	8.4	192
5	4	1966	0.0	834	-64 9.0	-79 56.0	913.9	3.9	204

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
5	4	1966	0.0	851	-64 10.0	-79 57.0	915.0	7.0	204
5	4	1966	0.0	9 0	-64 11.0	-79 58.0	916.1	9.7	177
5	4	1966	0.0	1135	-64 36.0	-79 55.0	941.2	6.6	180
5	4	1966	0.0	1153	-64 38.0	-79 55.0	943.2	10.2	180
5	4	1966	0.0	12 5	-64 40.0	-79 55.0	945.2	11.6	180
5	4	1966	0.0	1210	-64 41.0	-79 55.0	946.2	5.1	180
5	4	1966	0.0	1222	-64 42.0	-79 55.0	947.2	9.6	187
5	4	1966	0.0	1415	-65 0.0	-80 0.0	965.3	8.9	293
5	4	1966	0.0	2349	-64 27.0	-83 3.0	1050.1	4.6	270
6	4	1966	0.0	0 0	-64 27.0	-83 5.0	1051.0	8.0	288
6	4	1966	0.0	024	-64 26.0	-83 12.0	1054.1	10.7	337
6	4	1966	0.0	030	-64 25.0	-83 13.0	1055.2	4.6	270
6	4	1966	0.0	036	-64 25.0	-83 14.0	1055.7	8.0	295
6	4	1966	0.0	5 2	-64 10.0	-84 28.0	1091.1	3.8	295
6	4	1966	0.0	540	-64 9.0	-84 33.0	1093.5	7.8	296
6	4	1966	0.0	1530	-63 35.0	-87 8.0	1169.8	7.6	275
6	4	1966	0.0	2030	-63 32.0	-88 33.0	1207.7	4.1	303
6	4	1966	0.0	2125	-63 30.0	-88 40.0	1211.4	7.0	274
7	4	1966	0.0	830	-63 24.0	-91 33.0	1289.0	8.4	270
7	4	1966	0.0	1026	-63 24.0	-92 9.0	1305.1	3.5	270
7	4	1966	0.0	11 5	-63 24.0	-92 14.0	1307.4	6.9	270
7	4	1966	0.0	1310	-63 24.0	-92 46.0	1321.7	6.3	270
7	4	1966	0.0	1410	-63 24.0	-93 0.0	1327.9	3.5	199
7	4	1966	0.0	1522	-63 28.0	-93 3.0	1332.2	6.0	267
7	4	1966	0.0	21 0	-63 30.0	-94 19.0	1366.2	2.0	61
7	4	1966	0.0	22 0	-63 29.0	-94 15.0	1368.2	1.6	42
7	4	1966	0.0	2250	-63 28.0	-94 13.0	1369.5	3.7	134
8	4	1966	0.0	0 0	-63 31.0	-94 6.0	1373.9	3.4	129
8	4	1966	0.0	152	-63 35.0	-93 55.0	1380.2	0.7	321
8	4	1966	0.0	1315	-63 29.0	-94 6.0	1387.9	0.6	341
8	4	1966	0.0	2035	-63 25.0	-94 9.0	1392.2	4.1	336
8	4	1966	0.0	21 7	-63 23.0	-94 11.0	1394.4	9.7	339
8	4	1966	0.0	22 0	-63 15.0	-94 18.0	1403.0	0.0	90
8	4	1966	0.0	22 5	-63 15.0	-94 18.0	1403.0	9.2	337
9	4	1966	0.0	537	-62 11.0	-95 17.0	1472.4	4.4	343
9	4	1966	0.0	620	-62 8.0	-95 19.0	1475.6	4.2	262
9	4	1966	0.0	8 0	-62 9.0	-95 34.0	1482.7	0.9	210
9	4	1966	0.0	1310	-62 13.0	-95 39.0	1487.3	4.2	215
9	4	1966	0.0	1345	-62 15.0	-95 42.0	1489.7	4.4	205
9	4	1966	0.0	14 0	-62 16.0	-95 43.0	1490.8	3.7	220
9	4	1966	0.0	1547	-62 21.0	-95 52.0	1497.3	1.5	205
9	4	1966	0.0	1630	-62 22.0	-95 53.0	1498.4	3.6	247
9	4	1966	0.0	1712	-62 23.0	-95 58.0	1501.0	0.7	103
9	4	1966	0.0	23 0	-62 24.0	-95 49.0	1505.3	0.9	90
10	4	1966	0.0	0 0	-62 24.0	-95 47.0	1506.2	1.2	70
10	4	1966	0.0	230	-62 23.0	-95 41.0	1509.1	1.1	73
10	4	1966	0.0	835	-62 21.0	-95 27.0	1515.9	4.7	0
10	4	1966	0.0	9 0	-62 19.0	-95 27.0	1517.9	9.2	15
10	4	1966	0.0	1445	-61 28.0	-94 59.0	1570.6	4.4	26
10	4	1966	0.0	15 0	-61 27.0	-94 58.0	1571.7	3.9	270

ELTANIN 23 PUNTA ARENAS TO AUCKLAND

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
10	4	1966	0.0	1643	-61 27.0	-95 12.0	1578.4	3.3	270
10	4	1966	0.0	17 0	-61 27.0	-95 14.0	1579.4	1.9	270
10	4	1966	0.0	18 0	-61 27.0	-95 18.0	1581.3	0.7	270
10	4	1966	0.0	2155	-61 27.0	-95 24.0	1584.1	3.9	263
11	4	1966	0.0	0 0	-61 28.0	-95 41.0	1592.3	7.2	270
11	4	1966	0.0	0 8	-61 28.0	-95 43.0	1593.3	2.7	180
11	4	1966	0.0	030	-61 29.0	-95 43.0	1594.3	3.8	288
11	4	1966	0.0	3 0	-61 26.0	-96 2.0	1603.8	0.0	90
11	4	1966	0.0	3 5	-61 26.0	-96 2.0	1603.8	0.7	146
11	4	1966	0.0	1110	-61 31.0	-95 55.0	1609.9	9.0	37
11	4	1966	0.0	1748	-60 43.0	-94 41.0	1669.7	7.1	324
11	4	1966	0.0	18 9	-60 41.0	-94 44.0	1672.2	3.7	306
11	4	1966	0.0	2215	-60 32.0	-95 9.0	1687.4	0.4	334
12	4	1966	0.0	1 0	-60 31.0	-95 10.0	1688.5	0.6	75
12	4	1966	0.0	1350	-60 29.0	-94 55.0	1696.2	2.9	270
12	4	1966	0.0	1410	-60 29.0	-94 57.0	1697.2	11.7	256
12	4	1966	0.0	18 4	-60 40.0	-96 27.0	1742.7	5.6	270
12	4	1966	0.0	1825	-60 40.0	-96 31.0	1744.7	0.8	90
12	4	1966	0.0	1940	-60 40.0	-96 29.0	1745.7	2.9	270
12	4	1966	0.0	20 0	-60 40.0	-96 31.0	1746.6	10.0	258
12	4	1966	0.0	2030	-60 41.0	-96 41.0	1751.6	6.3	270
12	4	1966	0.0	2035	-60 41.0	-96 42.0	1752.1	10.3	255
13	4	1966	0.0	340	-61 0.0	-99 6.0	1824.8	13.5	206
13	4	1966	0.0	350	-61 2.0	-99 8.0	1827.0	9.3	227
13	4	1966	0.0	437	-61 7.0	-99 19.0	1834.3	3.5	243
13	4	1966	0.0	514	-61 8.0	-99 23.0	1836.5	9.3	223
13	4	1966	0.0	1537	-62 18.0	-101 43.0	1933.0	1.4	180
13	4	1966	0.0	1620	-62 19.0	-101 43.0	1934.0	10.0	242
13	4	1966	0.0	1645	-62 21.0	-101 51.0	1938.2	0.7	95
14	4	1966	0.0	950	-62 22.0	-101 26.0	1949.8	1.7	190
14	4	1966	0.0	1245	-62 27.0	-101 28.0	1954.9	0.9	43
14	4	1966	0.0	19 6	-62 23.0	-101 20.0	1960.4	3.4	67
14	4	1966	0.0	2035	-62 21.0	-101 10.0	1965.4	2.5	51
14	4	1966	0.0	2230	-62 18.0	-101 2.0	1970.2	0.7	25
15	4	1966	0.0	0 7	-62 17.0	-101 1.0	1971.3	4.7	189
15	4	1966	0.0	045	-62 20.0	-101 2.0	1974.3	6.1	180
15	4	1966	0.0	055	-62 21.0	-101 2.0	1975.3	1.7	25
15	4	1966	0.0	135	-62 20.0	-101 1.0	1976.4	5.4	155
15	4	1966	0.0	147	-62 21.0	-101 0.0	1977.5	6.5	189
15	4	1966	0.0	215	-62 24.0	-101 1.0	1980.6	3.6	193
15	4	1966	0.0	250	-62 26.0	-101 2.0	1982.6	3.7	185
15	4	1966	0.0	411	-62 31.0	-101 3.0	1987.6	1.9	25
15	4	1966	0.0	445	-62 30.0	-101 2.0	1988.7	4.6	223
15	4	1966	0.0	5 3	-62 31.0	-101 4.0	1990.1	10.4	202
15	4	1966	0.0	1133	-63 34.0	-102 0.0	2058.0	8.5	180
15	4	1966	0.0	1140	-63 35.0	-102 0.0	2059.0	4.4	204
15	4	1966	0.0	1155	-63 36.0	-102 1.0	2060.1	2.7	90
15	4	1966	0.0	12 5	-63 36.0	-102 0.0	2060.6	1.1	90
15	4	1966	0.0	1230	-63 36.0	-101 59.0	2061.0	3.5	204
15	4	1966	0.0	13 8	-63 38.0	-102 1.0	2063.2	1.1	90

ELTANIN 23 PUNTA ARENAS TO AUCKLAND

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
15	4	1966	0.0	1355	-63 38.0	-101 59.0	2064.1	4.9	193
15	4	1966	0.0	1420	-63 40.0	-102 0.0	2066.1	4.1	177
15	4	1966	0.0	1646	-63 50.0	-101 59.0	2076.1	0.6	71
16	4	1966	0.0	814	-63 47.0	-101 39.0	2085.5	4.0	336
16	4	1966	0.0	830	-63 46.0	-101 40.0	2086.5	9.1	0
16	4	1966	0.0	17 0	-62 29.0	-101 40.0	2163.5	8.6	10
17	4	1966	0.0	035	-61 25.0	-101 15.0	2228.6	3.5	26
17	4	1966	0.0	054	-61 24.0	-101 14.0	2229.7	4.6	305
17	4	1966	0.0	225	-61 20.0	-101 26.0	2236.7	1.9	287
17	4	1966	0.0	415	-61 19.0	-101 33.0	2240.2	1.1	44
17	4	1966	0.0	532	-61 18.0	-101 31.0	2241.6	4.1	214
17	4	1966	0.0	7 0	-61 23.0	-101 36.0	2247.6	1.8	216
17	4	1966	0.0	11 0	-61 29.0	-101 47.0	2255.0	0.5	90
17	4	1966	0.0	13 0	-61 29.0	-101 45.0	2256.0	1.0	72
18	4	1966	0.0	2 0	-61 25.0	-101 19.0	2269.0	6.3	347
18	4	1966	0.0	220	-61 23.0	-101 20.0	2271.1	9.4	353
18	4	1966	0.0	756	-60 31.0	-101 34.0	2323.5	3.3	270
18	4	1966	0.0	8 5	-60 31.0	-101 35.0	2324.0	9.6	356
18	4	1966	0.0	855	-60 23.0	-101 36.0	2332.0	7.9	270
18	4	1966	0.0	859	-60 23.0	-101 37.0	2332.5	9.3	352
18	4	1966	0.0	1437	-59 31.0	-101 51.0	2385.0	5.1	0
18	4	1966	0.0	15 0	-59 29.0	-101 51.0	2387.0	4.1	260
18	4	1966	0.0	1745	-59 31.0	-102 13.0	2398.3	3.1	270
18	4	1966	0.0	1755	-59 31.0	-102 14.0	2398.9	0.8	180
18	4	1966	0.0	1910	-59 32.0	-102 14.0	2399.9	3.9	291
18	4	1966	0.0	22 4	-59 28.0	-102 35.0	2411.2	1.0	111
19	4	1966	0.0	050	-59 29.0	-102 30.0	2414.0	1.3	85
19	4	1966	0.0	1038	-59 28.0	-102 5.0	2426.7	4.2	27
19	4	1966	0.0	1110	-59 26.0	-102 3.0	2428.9	7.4	24
19	4	1966	0.0	2135	-58 16.0	-101 3.0	2505.5	4.9	15
19	4	1966	0.0	22 0	-58 14.0	-101 2.0	2507.6	4.0	199
20	4	1966	0.0	023	-58 23.0	-101 8.0	2517.1	2.5	208
20	4	1966	0.0	050	-58 24.0	-101 9.0	2518.3	0.0	90
20	4	1966	0.0	1 0	-58 24.0	-101 9.0	2518.3	5.8	152
20	4	1966	0.0	112	-58 25.0	-101 8.0	2519.4	4.3	200
20	4	1966	0.0	342	-58 35.0	-101 15.0	2530.0	3.7	208
20	4	1966	0.0	4 0	-58 36.0	-101 16.0	2531.2	1.2	116
20	4	1966	0.0	555	-58 37.0	-101 12.0	2533.5	1.9	28
20	4	1966	0.0	630	-58 36.0	-101 11.0	2534.6	5.3	160
20	4	1966	0.0	830	-58 46.0	-101 4.0	2545.2	2.7	153
20	4	1966	0.0	920	-58 48.0	-101 2.0	2547.5	0.9	97
21	4	1966	0.0	336	-58 50.0	-100 32.0	2563.1	2.5	180
21	4	1966	0.0	4 0	-58 51.0	-100 32.0	2564.1	0.0	90
21	4	1966	0.0	4 7	-58 51.0	-100 32.0	2564.1	7.7	296
21	4	1966	0.0	5 0	-58 48.0	-100 44.0	2571.0	8.0	294
21	4	1966	0.0	1730	-58 8.0	-103 39.0	2670.9	4.7	295
21	4	1966	0.0	18 0	-58 7.0	-103 43.0	2673.3	6.0	277
21	4	1966	0.0	1925	-58 6.0	-103 59.0	2681.8	3.2	270
21	4	1966	0.0	1935	-58 6.0	-104 0.0	2682.3	7.5	302
21	4	1966	0.0	1950	-58 5.0	-104 3.0	2684.2	3.1	270

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
21	4	1966	0.0	2010	-58 5.0	-104 5.0	2685.2	6.8	281
22	4	1966	0.0	050	-57 59.0	-105 4.0	2717.0	3.1	270
22	4	1966	0.0	1 0	-57 59.0	-105 5.0	2717.6	0.7	195
22	4	1966	0.0	346	-58 1.0	-105 6.0	2719.6	2.3	270
22	4	1966	0.0	4 0	-58 1.0	-105 7.0	2720.2	4.0	270
22	4	1966	0.0	4 8	-58 1.0	-105 8.0	2720.7	5.5	269
22	4	1966	0.0	18 8	-58 2.0	-107 34.0	2798.0	5.5	270
22	4	1966	0.0	1831	-58 2.0	-107 38.0	2800.1	3.8	162
22	4	1966	0.0	2045	-58 10.0	-107 33.0	2808.6	1.6	90
22	4	1966	0.0	21 5	-58 10.0	-107 32.0	2809.1	3.6	147
22	4	1966	0.0	2345	-58 18.0	-107 22.0	2818.7	0.0	90
22	4	1966	0.0	2350	-58 18.0	-107 22.0	2818.7	1.1	75
23	4	1966	0.0	317	-58 17.0	-107 15.0	2822.5	3.0	293
23	4	1966	0.0	5 0	-58 15.0	-107 24.0	2827.6	1.9	302
23	4	1966	0.0	6 0	-58 14.0	-107 27.0	2829.5	0.7	112
23	4	1966	0.0	2214	-58 18.0	-107 8.0	2840.3	7.6	195
23	4	1966	0.0	2230	-58 20.0	-107 9.0	2842.3	9.0	195
24	4	1966	0.0	10 0	-60 0.0	-108 0.0	2945.7	3.8	201
24	4	1966	0.0	11 8	-60 4.0	-108 3.0	2950.0	0.0	90
24	4	1966	0.0	1119	-60 4.0	-108 3.0	2950.0	4.0	299
24	4	1966	0.0	1425	-59 58.0	-108 25.0	2962.5	1.5	270
24	4	1966	0.0	1445	-59 58.0	-108 26.0	2963.0	0.4	202
25	4	1966	0.0	445	-60 3.0	-108 30.0	2968.4	5.2	166
25	4	1966	0.0	5 0	-60 5.0	-108 29.0	2970.4	0.0	90
25	4	1966	0.0	5 7	-60 5.0	-108 29.0	2970.4	13.9	180
25	4	1966	0.0	6 3	-60 18.0	-108 29.0	2983.4	3.8	112
25	4	1966	0.0	645	-60 19.0	-108 24.0	2986.1	9.4	170
25	4	1966	0.0	13 0	-61 17.0	-108 4.0	3044.9	4.4	180
25	4	1966	0.0	1314	-61 18.0	-108 4.0	3045.9	9.5	171
25	4	1966	0.0	1430	-61 30.0	-108 0.0	3058.1	3.0	180
25	4	1966	0.0	1450	-61 31.0	-108 0.0	3059.1	3.4	311
25	4	1966	0.0	18 0	-61 24.0	-108 17.0	3069.8	0.5	216
26	4	1966	0.0	835	-61 30.0	-108 26.0	3077.2	3.6	277
26	4	1966	0.0	11 0	-61 29.0	-108 44.0	3085.8	0.6	270
26	4	1966	0.0	1135	-61 29.0	-108 45.0	3086.3	3.3	277
26	4	1966	0.0	1355	-61 28.0	-109 1.0	3094.0	1.9	270
26	4	1966	0.0	1410	-61 28.0	-109 2.0	3094.5	4.5	180
26	4	1966	0.0	1437	-61 30.0	-109 2.0	3096.5	7.7	180
26	4	1966	0.0	15 0	-61 33.0	-109 2.0	3099.5	7.0	168
26	4	1966	0.0	2345	-62 33.0	-108 35.0	3160.8	0.0	90
27	4	1966	0.0	0 0	-62 33.0	-108 35.0	3160.8	0.0	90
27	4	1966	0.0	0 8	-62 33.0	-108 35.0	3160.8	0.6	90
27	4	1966	0.0	220	-62 33.0	-108 32.0	3162.2	5.0	322
27	4	1966	0.0	3 5	-62 30.0	-108 37.0	3166.0	1.2	90
27	4	1966	0.0	350	-62 30.0	-108 35.0	3166.9	3.6	266
27	4	1966	0.0	755	-62 26.0	-109 6.0	3181.8	0.3	205
27	4	1966	0.0	2140	-62 30.0	-109 10.0	3196.2	6.1	167
27	4	1966	0.0	22 0	-62 32.0	-109 9.0	3198.2	4.4	180
27	4	1966	0.0	2214	-62 33.0	-109 9.0	3199.2	9.5	170
28	4	1966	0.0	533	-63 51.0	-108 39.0	3268.4	4.4	180

ELTANIN 23 PUNTA ARENAS TO AUCKLAND

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
28	4	1966	0.0	7 0	-63 53.0	-108 39.0	3270.4	2.9	270
28	4	1966	0.0	9 0	-63 53.0	-108 52.0	3276.1	2.0	270
28	4	1966	0.0	11 0	-63 53.0	-109 1.0	3280.1	1.3	307
28	4	1966	0.0	1215	-63 52.0	-109 4.0	3281.7	0.5	156
28	4	1966	0.0	1415	-63 53.0	-109 3.0	3282.8	0.9	41
29	4	1966	0.0	8 8	-63 41.0	-108 39.0	3298.8	0.9	24
29	4	1966	0.0	920	-63 40.0	-108 38.0	3299.9	3.3	324
29	4	1966	0.0	1028	-63 37.0	-108 43.0	3303.7	2.2	90
29	4	1966	0.0	1040	-63 37.0	-108 42.0	3304.1	5.3	270
29	4	1966	0.0	1055	-63 37.0	-108 45.0	3305.4	9.5	295
29	4	1966	0.0	1452	-63 21.0	-110 1.0	3342.9	9.6	318
29	4	1966	0.0	15 0	-63 20.0	-110 3.0	3344.3	3.6	270
29	4	1966	0.0	1515	-63 20.0	-110 5.0	3345.2	4.1	307
29	4	1966	0.0	1540	-63 19.0	-110 8.0	3346.9	6.6	295
30	4	1966	0.0	0 0	-62 56.0	-111 58.0	3401.6	13.2	266
30	4	1966	0.0	1 0	-62 57.0	-112 27.0	3414.9	11.9	266
30	4	1966	0.0	336	-62 59.0	-113 35.0	3445.8	11.6	270
30	4	1966	0.0	338	-62 59.0	-113 36.0	3446.3	11.5	256
30	4	1966	0.0	4 0	-63 0.0	-113 45.0	3450.5	6.9	222
30	4	1966	0.0	412	-63 1.0	-113 47.0	3451.9	8.6	229
30	4	1966	0.0	433	-63 3.0	-113 52.0	3454.9	6.0	234
30	4	1966	0.0	450	-63 4.0	-113 55.0	3456.6	9.1	228
30	4	1966	0.0	815	-63 25.0	-114 46.0	3487.7	9.8	200
30	4	1966	0.0	920	-63 35.0	-114 54.0	3498.3	5.8	180
30	4	1966	0.0	930	-63 36.0	-114 54.0	3499.3	10.6	200
30	4	1966	0.0	1155	-64 0.0	-115 14.0	3524.9	10.4	187
30	4	1966	0.0	1236	-64 7.0	-115 16.0	3531.9	4.3	180
30	4	1966	0.0	1250	-64 8.0	-115 16.0	3532.9	2.5	270
30	4	1966	0.0	13 0	-64 8.0	-115 17.0	3533.4	4.3	314
30	4	1966	0.0	14 0	-64 5.0	-115 24.0	3537.6	2.7	314
30	4	1966	0.0	1535	-64 2.0	-115 31.0	3541.9	1.8	270
30	4	1966	0.0	1552	-64 2.0	-115 32.0	3542.4	5.7	270
1	5	1966	0.0	2 0	-64 2.0	-115 49.0	3549.8	0.6	226
1	5	1966	0.0	930	-64 5.0	-115 56.0	3554.1	3.6	257
1	5	1966	0.0	12 0	-64 7.0	-116 16.0	3563.1	1.3	270
1	5	1966	0.0	1220	-64 7.0	-116 17.0	3563.5	2.4	221
1	5	1966	0.0	14 0	-64 10.0	-116 23.0	3567.5	1.9	221
1	5	1966	0.0	1442	-64 11.0	-116 25.0	3568.8	2.5	0
1	5	1966	0.0	15 6	-64 10.0	-116 25.0	3569.8	6.8	24
1	5	1966	0.0	1525	-64 8.0	-116 23.0	3572.0	6.1	12
1	5	1966	0.0	1545	-64 6.0	-116 22.0	3574.0	9.8	19
2	5	1966	0.0	235	-62 26.0	-115 5.0	3679.9	0.0	90
2	5	1966	0.0	255	-62 26.0	-115 5.0	3679.9	3.5	27
2	5	1966	0.0	550	-62 17.0	-114 55.0	3690.0	0.0	90
2	5	1966	0.0	610	-62 17.0	-114 55.0	3690.0	4.0	20
2	5	1966	0.0	852	-62 7.0	-114 47.0	3700.7	0.6	128
2	5	1966	0.0	2016	-62 11.0	-114 36.0	3707.2	5.4	347
2	5	1966	0.0	2039	-62 9.0	-114 37.0	3709.2	9.4	352
2	5	1966	0.0	22 3	-61 56.0	-114 41.0	3722.4	0.0	90
2	5	1966	0.0	2210	-61 56.0	-114 41.0	3722.4	11.0	353

ELTANIN 23 PUNTA ARENAS TO AUCKLAND

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
3	5	1966	0.0	050	-61 27.0	-114 48.0	3751.6	10.0	354
3	5	1966	0.0	635	-60 30.0	-115 0.0	3808.8	3.3	0
3	5	1966	0.0	653	-60 29.0	-115 0.0	3809.8	8.3	351
3	5	1966	0.0	715	-60 26.0	-115 1.0	3812.9	9.5	0
3	5	1966	0.0	728	-60 24.0	-115 1.0	3814.9	4.0	35
3	5	1966	0.0	9 0	-60 19.0	-114 54.0	3821.0	1.7	37
3	5	1966	0.0	1029	-60 17.0	-114 51.0	3823.5	0.6	58
4	5	1966	0.0	150	-60 12.0	-114 35.0	3832.8	3.7	173
4	5	1966	0.0	255	-60 16.0	-114 34.0	3836.9	2.0	90
4	5	1966	0.0	310	-60 16.0	-114 33.0	3837.4	4.9	198
4	5	1966	0.0	610	-60 30.0	-114 42.0	3852.1	1.7	206
4	5	1966	0.0	650	-60 31.0	-114 43.0	3853.2	0.0	90
4	5	1966	0.0	7 7	-60 31.0	-114 43.0	3853.2	3.3	0
4	5	1966	0.0	725	-60 30.0	-114 43.0	3854.2	11.8	352
4	5	1966	0.0	1325	-59 20.0	-115 3.0	3924.9	11.8	0
4	5	1966	0.0	1537	-58 54.0	-115 3.0	3950.9	0.8	171
5	5	1966	0.0	821	-59 7.0	-114 59.0	3964.1	2.8	261
5	5	1966	0.0	1045	-59 8.0	-115 12.0	3970.8	3.1	270
5	5	1966	0.0	1055	-59 8.0	-115 13.0	3971.3	5.2	259
5	5	1966	0.0	14 0	-59 11.0	-115 44.0	3987.5	0.0	90
5	5	1966	0.0	14 5	-59 11.0	-115 44.0	3987.5	1.3	27
5	5	1966	0.0	1455	-59 10.0	-115 43.0	3988.6	4.6	4
6	5	1966	0.0	245	-58 16.0	-115 36.0	4042.7	2.2	19
6	5	1966	0.0	2055	-57 38.0	-115 11.0	4083.0	3.1	262
6	5	1966	0.0	2323	-57 39.0	-115 25.0	4090.5	1.2	270
6	5	1966	0.0	2350	-57 39.0	-115 26.0	4091.1	3.2	270
7	5	1966	0.0	130	-57 39.0	-115 36.0	4096.4	3.0	290
7	5	1966	0.0	325	-57 37.0	-115 46.0	4102.1	0.9	313
7	5	1966	0.0	630	-57 35.0	-115 50.0	4105.1	7.5	270
7	5	1966	0.0	7 0	-57 35.0	-115 57.0	4108.8	8.1	277
7	5	1966	0.0	8 0	-57 34.0	-116 12.0	4116.9	7.5	270
7	5	1966	0.0	2040	-57 34.0	-119 10.0	4212.4	7.5	227
7	5	1966	0.0	2052	-57 35.0	-119 12.0	4213.9	9.8	270
7	5	1966	0.0	21 8	-57 35.0	-119 17.0	4216.5	6.9	270
7	5	1966	0.0	2113	-57 35.0	-119 18.0	4217.1	6.3	275
8	5	1966	0.0	1830	-57 24.0	-123 25.0	4350.3	4.4	262
10	5	1966	0.0	1 0	-57 43.0	-127 32.0	4484.1	2.7	320
11	5	1966	0.0	8 0	-56 38.0	-129 13.0	4569.1	8.2	269
11	5	1966	0.0	17 0	-56 39.0	-131 27.0	4642.8	0.4	29
11	5	1966	0.0	1940	-56 38.0	-131 26.0	4643.9	0.9	90
12	5	1966	0.0	11 0	-56 38.0	-131 1.0	4657.7	3.5	151
12	5	1966	0.0	1338	-56 46.0	-130 53.0	4666.8	0.7	90
12	5	1966	0.0	1425	-56 46.0	-130 52.0	4667.4	3.3	270
12	5	1966	0.0	1435	-56 46.0	-130 53.0	4667.9	9.6	326
12	5	1966	0.0	19 0	-56 11.0	-131 36.0	4710.2	9.8	297
12	5	1966	0.0	2250	-55 54.0	-132 36.0	4747.8	11.1	16
12	5	1966	0.0	2335	-55 46.0	-132 32.0	4756.1	9.6	292
13	5	1966	0.0	2152	-54 26.0	-138 17.0	4969.1	5.7	270
13	5	1966	0.0	22 4	-54 26.0	-138 19.0	4970.2	7.5	293
14	5	1966	0.0	837	-53 55.0	-140 23.0	5049.2	6.3	270

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
14	5	1966	0.0	848	-53 55.0	-140 25.0	5050.3	4.8	113
14	5	1966	0.0	920	-53 56.0	-140 21.0	5052.9	0.0	90
14	5	1966	0.0	930	-53 56.0	-140 21.0	5052.9	12.6	90
14	5	1966	0.0	936	-53 56.0	-140 19.0	5054.1	0.0	90
14	5	1966	0.0	10 0	-53 56.0	-140 19.0	5054.1	3.6	90
14	5	1966	0.0	1010	-53 56.0	-140 18.0	5054.7	0.8	90
14	5	1966	0.0	1055	-53 56.0	-140 17.0	5055.2	6.8	270
14	5	1966	0.0	11 0	-53 56.0	-140 18.0	5055.8	6.2	310
14	5	1966	0.0	1115	-53 55.0	-140 20.0	5057.4	8.7	290
14	5	1966	0.0	1620	-53 40.0	-141 30.0	5101.4	3.4	270
14	5	1966	0.0	1630	-53 40.0	-141 31.0	5102.0	10.7	287
15	5	1966	0.0	19 0	-52 17.0	-149 0.0	5384.8	10.7	292
17	5	1966	0.0	2010	-49 1.0	-161 53.0	5912.6	7.0	291
17	5	1966	0.0	2034	-49 0.0	-161 57.0	5915.5	3.1	286
18	5	1966	0.0	0 5	-48 57.0	-162 13.0	5926.4	0.0	90
18	5	1966	0.0	1 0	-48 57.0	-162 13.0	5926.4	11.9	289
18	5	1966	0.0	950	-48 23.0	-164 43.0	6031.1	7.7	270
18	5	1966	0.0	10 0	-48 23.0	-164 45.0	6032.4	10.2	292
18	5	1966	0.0	1120	-48 18.0	-165 4.0	6046.0	5.7	270
18	5	1966	0.0	1127	-48 18.0	-165 5.0	6046.7	9.5	297
18	5	1966	0.0	1155	-48 16.0	-165 11.0	6051.2	7.7	270
18	5	1966	0.0	12 0	-48 16.0	-165 12.0	6051.8	11.4	297
18	5	1966	0.0	1212	-48 15.0	-165 15.0	6054.1	9.2	289
18	5	1966	0.0	1615	-48 3.0	-166 8.0	6091.4	10.5	290
18	5	1966	0.0	1948	-47 50.0	-167 0.0	6128.6	4.5	326
18	5	1966	0.0	20 4	-47 49.0	-167 1.0	6129.8	9.5	284
18	5	1966	0.0	2030	-47 48.0	-167 7.0	6133.9	10.8	310
18	5	1966	0.0	2148	-47 39.0	-167 23.0	6148.0	5.9	326
18	5	1966	0.0	22 0	-47 38.0	-167 24.0	6149.2	10.1	307
18	5	1966	0.0	2230	-47 35.0	-167 30.0	6154.2	1.9	326
19	5	1966	0.0	022	-47 32.0	-167 33.0	6157.8	5.0	335
19	5	1966	0.0	235	-47 22.0	-167 40.0	6168.9	0.6	34
19	5	1966	0.0	1030	-47 18.0	-167 36.0	6173.7	3.9	0
19	5	1966	0.0	1250	-47 9.0	-167 36.0	6182.7	3.6	326
19	5	1966	0.0	1310	-47 8.0	-167 37.0	6183.9	0.0	90
19	5	1966	0.0	1328	-47 8.0	-167 37.0	6183.9	3.1	5
19	5	1966	0.0	16 5	-47 0.0	-167 36.0	6192.0	2.4	34
19	5	1966	0.0	1635	-46 59.0	-167 35.0	6193.2	11.9	180
19	5	1966	0.0	17 0	-47 4.0	-167 35.0	6198.2	11.4	174
19	5	1966	0.0	20 0	-47 38.0	-167 30.0	6232.3	4.1	270
19	5	1966	0.0	2010	-47 38.0	-167 31.0	6233.0	9.9	305
20	5	1966	0.0	115	-47 9.0	-168 32.0	6283.5	4.8	326
20	5	1966	0.0	130	-47 8.0	-168 33.0	6284.7	9.9	304
20	5	1966	0.0	225	-47 3.0	-168 44.0	6293.7	7.4	326
20	5	1966	0.0	235	-47 2.0	-168 45.0	6294.9	9.3	305
20	5	1966	0.0	740	-46 35.0	-169 42.0	6342.3	9.9	251
20	5	1966	0.0	913	-46 40.0	-170 3.0	6357.6	0.0	90
20	5	1966	0.0	935	-46 40.0	-170 3.0	6357.6	4.1	340
20	5	1966	0.0	14 0	-46 23.0	-170 12.0	6375.7	0.4	35
20	5	1966	0.0	2355	-46 20.0	-170 9.0	6379.3	14.1	325

ELTANIN 23 PUNTA ARENAS TO AUCKLAND

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
21	5	1966	0.0	0 0	-46 19.0	-170 10.0	6380.5	4.9	325
21	5	1966	0.0	015	-46 18.0	-170 11.0	6381.8	9.1	312
21	5	1966	0.0	6 0	-45 43.0	-171 7.0	6434.1	4.3	270
21	5	1966	0.0	610	-45 43.0	-171 8.0	6434.8	9.9	317
21	5	1966	0.0	635	-45 40.0	-171 12.0	6438.9	8.1	270
21	5	1966	0.0	640	-45 40.0	-171 13.0	6439.6	1.3	318
21	5	1966	0.0	1410	-45 33.0	-171 22.0	6449.0	5.6	325
21	5	1966	0.0	1423	-45 32.0	-171 23.0	6450.2	9.2	307
21	5	1966	0.0	1824	-45 10.0	-172 5.0	6487.0	6.7	305
21	5	1966	0.0	1855	-45 8.0	-172 9.0	6490.5	9.0	308
21	5	1966	0.0	20 0	-45 2.0	-172 20.0	6500.3	9.3	309
21	5	1966	0.0	2215	-44 49.0	-172 43.0	6521.1	4.9	325
21	5	1966	0.0	2230	-44 48.0	-172 44.0	6522.4	9.3	305
22	5	1966	0.0	0 0	-44 40.0	-173 0.0	6536.3	6.3	270
22	5	1966	0.0	014	-44 40.0	-173 2.0	6537.7	1.2	35
22	5	1966	0.0	115	-44 39.0	-173 1.0	6538.9	4.4	29
22	5	1966	0.0	540	-44 22.0	-172 48.0	6558.3	1.7	0
22	5	1966	0.0	615	-44 21.0	-172 48.0	6559.3	0.0	90
22	5	1966	0.0	623	-44 21.0	-172 48.0	6559.3	2.1	61
22	5	1966	0.0	820	-44 19.0	-172 43.0	6563.4	0.7	90
22	5	1966	0.0	1441	-44 19.0	-172 37.0	6567.7	5.5	305
22	5	1966	0.0	15 0	-44 18.0	-172 39.0	6569.4	9.8	289
22	5	1966	0.0	1930	-44 4.0	-173 37.0	6613.3	8.7	287
22	5	1966	0.0	2017	-44 2.0	-173 46.0	6620.1	3.8	270
22	5	1966	0.0	2040	-44 2.0	-173 48.0	6621.5	9.8	289
22	5	1966	0.0	2333	-43 53.0	-174 25.0	6649.6	3.9	305
23	5	1966	0.0	0 0	-43 52.0	-174 27.0	6651.4	1.2	0
23	5	1966	0.0	052	-43 51.0	-174 27.0	6652.4	1.8	0
23	5	1966	0.0	125	-43 50.0	-174 27.0	6653.4	0.0	90
23	5	1966	0.0	138	-43 50.0	-174 27.0	6653.4	4.1	49
23	5	1966	0.0	330	-43 45.0	-174 19.0	6661.0	1.4	90
23	5	1966	0.0	4 0	-43 45.0	-174 18.0	6661.7	9.7	90
23	5	1966	0.0	427	-43 45.0	-174 12.0	6666.1	3.3	90
23	5	1966	0.0	533	-43 45.0	-174 7.0	6669.7	0.0	90
23	5	1966	0.0	610	-43 45.0	-174 7.0	6669.7	4.1	65
23	5	1966	0.0	645	-43 44.0	-174 4.0	6672.1	1.1	36
23	5	1966	0.0	9 5	-43 42.0	-174 2.0	6674.5	3.4	270
23	5	1966	0.0	930	-43 42.0	-174 4.0	6676.0	11.2	297
23	5	1966	0.0	1840	-42 55.0	-176 9.0	6778.4	0.5	109
24	5	1966	0.0	123	-42 56.0	-176 5.0	6781.4	9.1	304
24	5	1966	0.0	135	-42 55.0	-176 7.0	6783.2	11.5	309
24	5	1966	0.0	224	-42 49.0	-176 17.0	6792.7	10.2	308
24	5	1966	0.0	825	-42 11.0	-177 22.0	6853.9	8.1	126
24	5	1966	0.0	1630	-42 50.0	-176 10.0	6919.7	9.8	210
24	5	1966	0.0	1845	-43 9.0	-176 25.0	6941.7	12.9	201
24	5	1966	0.0	20 0	-43 24.0	-176 33.0	6957.7	15.8	216
24	5	1966	0.0	20 5	-43 25.0	-176 34.0	6959.0	12.5	235
24	5	1966	0.0	2030	-43 28.0	-176 40.0	6964.3	2.9	90
24	5	1966	0.0	22 0	-43 28.0	-176 34.0	6968.6	2.6	139
25	5	1966	0.0	545	-43 43.0	-176 16.0	6988.5	12.0	0

ELTANIN 23 PUNTA ARENAS TO AUCKLAND

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
25	5	1966	0.0	6 0	-43 40.0	-176 16.0	6991.5	10.4	0
25	5	1966	0.0	635	-43 34.0	-176 16.0	6997.5	6.7	61
25	5	1966	0.0	712	-43 32.0	-176 11.0	7001.6	1.2	36
25	5	1966	0.0	812	-43 31.0	-176 10.0	7002.9	2.8	55
25	5	1966	0.0	850	-43 30.0	-176 8.0	7004.6	0.0	90
25	5	1966	0.0	9 0	-43 30.0	-176 8.0	7004.6	4.0	0
25	5	1966	0.0	915	-43 29.0	-176 8.0	7005.6	9.1	0
25	5	1966	0.0	935	-43 26.0	-176 8.0	7008.6	11.6	0
25	5	1966	0.0	12 0	-42 58.0	-176 8.0	7036.6	11.7	308
25	5	1966	0.0	17 0	-42 22.0	-177 11.0	7095.3	7.6	324
25	5	1966	0.0	1710	-42 21.0	-177 12.0	7096.5	7.6	308
26	5	1966	0.0	035	-41 46.0	-178 12.0	7153.2	7.3	323
26	5	1966	0.0	045	-41 45.0	-178 13.0	7154.4	0.9	265
26	5	1966	0.0	5 0	-41 44.0	-178 18.0	7158.3	4.0	102
26	5	1966	0.0	730	-41 46.0	-178 5.0	7168.2	1.6	0
26	5	1966	0.0	8 7	-41 45.0	-178 5.0	7169.2	2.9	83
26	5	1966	0.0	11 0	-41 44.0	-177 54.0	7177.5	0.0	90
26	5	1966	0.0	1115	-41 44.0	-177 54.0	7177.5	5.6	340
26	5	1966	0.0	1138	-41 42.0	-177 55.0	7179.6	8.9	314
27	5	1966	0.0	225	-40 11.0	-180 0.0	7310.7	8.5	314
27	5	1966	0.0	13 0	-39 9.0	178 36.0	7400.3	9.0	9
27	5	1966	0.0	1615	-38 40.0	178 42.0	7429.7	7.2	0
27	5	1966	0.0	17 5	-38 34.0	178 42.0	7435.7	11.6	0
27	5	1966	0.0	1710	-38 33.0	178 42.0	7436.7	10.3	41
27	5	1966	0.0	1812	-38 25.0	178 51.0	7447.4	4.9	57
27	5	1966	0.0	1835	-38 24.0	178 53.0	7449.2	4.0	180
27	5	1966	0.0	19 5	-38 26.0	178 53.0	7451.2	1.1	180
27	5	1966	0.0	20 0	-38 27.0	178 53.0	7452.2	3.1	38
27	5	1966	0.0	2025	-38 26.0	178 54.0	7453.5	10.4	0
27	5	1966	0.0	23 0	-37 59.0	178 54.0	7480.5	9.7	342
28	5	1966	0.0	0 5	-37 49.0	178 50.0	7491.0	5.0	332
28	5	1966	0.0	045	-37 46.0	178 48.0	7494.4	2.8	302
28	5	1966	0.0	125	-37 45.0	178 46.0	7496.2	2.0	58
28	5	1966	0.0	220	-37 44.0	178 48.0	7498.1	11.6	0
28	5	1966	0.0	225	-37 43.0	178 48.0	7499.1	12.2	0
28	5	1966	0.0	235	-37 41.0	178 48.0	7501.1	7.4	38
28	5	1966	0.0	245	-37 40.0	178 49.0	7502.4	9.4	6
28	5	1966	0.0	330	-37 33.0	178 50.0	7509.4	6.1	0
28	5	1966	0.0	340	-37 32.0	178 50.0	7510.4	6.2	230
28	5	1966	0.0	410	-37 34.0	178 47.0	7513.5	2.6	270
28	5	1966	0.0	447	-37 34.0	178 45.0	7515.1	4.5	122
28	5	1966	0.0	512	-37 35.0	178 47.0	7517.0	2.3	202
28	5	1966	0.0	6 9	-37 37.0	178 46.0	7519.1	3.8	90
28	5	1966	0.0	622	-37 37.0	178 47.0	7519.9	0.0	90
28	5	1966	0.0	630	-37 37.0	178 47.0	7519.9	7.0	342
28	5	1966	0.0	845	-37 22.0	178 41.0	7535.7	6.6	294
28	5	1966	0.0	1850	-36 55.0	177 25.0	7602.0	6.1	294
29	5	1966	0.0	2359	-36 42.0	176 49.0	7633.6		

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
9	7	1966	0.0	6 0	-36 25.0	175 13.0	0.0	7.1	58
9	7	1966	0.0	616	-36 24.0	175 15.0	1.9	6.8	84
9	7	1966	0.0	735	-36 23.0	175 26.0	10.8	13.6	64
9	7	1966	0.0	1045	-36 4.0	176 14.0	53.9	11.2	92
9	7	1966	0.0	14 0	-36 5.0	176 59.0	90.3	12.1	100
9	7	1966	0.0	18 0	-36 13.0	177 58.0	138.6	11.5	100
9	7	1966	0.0	19 0	-36 15.0	178 12.0	150.1	11.5	100
9	7	1966	0.0	20 0	-36 17.0	178 26.0	161.6	11.3	95
9	7	1966	0.0	21 0	-36 18.0	178 40.0	172.9	10.7	101
9	7	1966	0.0	22 0	-36 20.0	178 53.0	183.6	9.7	96
9	7	1966	0.0	23 0	-36 21.0	179 5.0	193.3	7.7	94
10	7	1966	0.0	1 0	-36 22.0	179 24.0	208.6	8.9	98
10	7	1966	0.0	11 0	-36 35.0	-178 46.0	298.0	8.9	96
10	7	1966	0.0	12 0	-36 36.0	-178 35.0	306.9	8.5	96
10	7	1966	0.0	1640	-36 40.0	-177 46.0	346.4	8.0	96
10	7	1966	0.0	20 0	-36 43.0	-177 13.0	373.1	9.8	102
10	7	1966	0.0	22 0	-36 47.0	-176 49.0	392.7	10.8	90
10	7	1966	0.0	22 9	-36 47.0	-176 47.0	394.3	19.6	104
10	7	1966	0.0	2222	-36 48.0	-176 42.0	398.4	9.5	104
11	7	1966	0.0	520	-37 4.0	-175 22.0	464.3	9.8	103
11	7	1966	0.0	9 0	-37 12.0	-174 38.0	500.3	9.7	107
11	7	1966	0.0	1048	-37 17.0	-174 17.0	517.8	12.1	103
11	7	1966	0.0	16 0	-37 31.0	-173 0.0	580.5	12.1	100
11	7	1966	0.0	17 0	-37 33.0	-172 45.0	592.6	12.2	103
12	7	1966	0.0	024	-37 53.0	-170 54.0	682.6	9.3	100
12	7	1966	0.0	1 0	-37 54.0	-170 47.0	688.3	12.2	104
12	7	1966	0.0	2 0	-37 57.0	-170 32.0	700.5	10.6	102
12	7	1966	0.0	255	-37 59.0	-170 20.0	710.1	9.1	108
12	7	1966	0.0	4 0	-38 2.0	-170 8.0	720.1	11.4	105
12	7	1966	0.0	5 0	-38 5.0	-169 54.0	731.5	8.1	104
12	7	1966	0.0	6 0	-38 7.0	-169 44.0	739.6	7.4	103
12	7	1966	0.0	745	-38 10.0	-169 28.0	752.5	7.5	122
12	7	1966	0.0	8 0	-38 11.0	-169 26.0	754.4	13.7	103
12	7	1966	0.0	9 0	-38 14.0	-169 9.0	768.1	13.1	105
12	7	1966	0.0	1122	-38 22.0	-168 31.0	799.0	11.4	106
12	7	1966	0.0	13 0	-38 27.0	-168 8.0	817.7	12.1	104
12	7	1966	0.0	15 0	-38 33.0	-167 38.0	841.9	13.1	108
12	7	1966	0.0	16 0	-38 37.0	-167 22.0	855.0	9.8	86
12	7	1966	0.0	20 0	-38 34.0	-166 32.0	894.2	8.0	0
12	7	1966	0.0	2015	-38 32.0	-166 32.0	896.2	8.0	286
12	7	1966	0.0	23 0	-38 26.0	-166 59.0	918.2	8.2	287
13	7	1966	0.0	2 0	-38 19.0	-167 29.0	942.7	9.1	284
13	7	1966	0.0	440	-38 13.0	-167 59.0	967.0	9.8	206
13	7	1966	0.0	650	-38 32.0	-168 11.0	988.2	5.0	32
13	7	1966	0.0	8 0	-38 27.0	-168 7.0	994.1	0.0	90
13	7	1966	0.0	12 0	-38 27.0	-168 7.0	994.1	5.2	133
13	7	1966	0.0	1540	-38 40.0	-167 49.0	1013.3	10.8	106
13	7	1966	0.0	18 0	-38 47.0	-167 18.0	1038.5	9.7	106
13	7	1966	0.0	22 0	-38 58.0	-166 30.0	1077.4	2.6	90
13	7	1966	0.0	2218	-38 58.0	-166 29.0	1078.2	7.7	90

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
13	7	1966	0.0	2230	-38 58.0	-166 27.0	1079.8	1.0	100
14	7	1966	0.0	4 0	-38 59.0	-166 20.0	1085.3	6.1	180
14	7	1966	0.0	410	-39 0.0	-166 20.0	1086.3	12.3	101
14	7	1966	0.0	5 0	-39 2.0	-166 7.0	1096.6	10.1	96
14	7	1966	0.0	6 0	-39 3.0	-165 54.0	1106.7	10.4	92
14	7	1966	0.0	15 0	-39 6.0	-163 54.0	1199.9	14.7	90
14	7	1966	0.0	16 0	-39 6.0	-163 35.0	1214.7	14.0	86
14	7	1966	0.0	17 0	-39 5.0	-163 17.0	1228.7	11.1	88
14	7	1966	0.0	20 0	-39 4.0	-162 34.0	1262.1	10.7	87
15	7	1966	0.0	0 0	-39 2.0	-161 39.0	1304.9	10.6	88
15	7	1966	0.0	3 0	-39 1.0	-160 58.0	1336.7	9.8	89
15	7	1966	0.0	1220	-39 0.0	-159 0.0	1428.4	9.4	99
15	7	1966	0.0	13 0	-39 1.0	-158 52.0	1434.7	7.8	97
15	7	1966	0.0	14 0	-39 2.0	-158 42.0	1442.5	10.3	97
15	7	1966	0.0	21 0	-39 11.0	-157 10.0	1514.5	0.0	90
15	7	1966	0.0	23 0	-39 11.0	-157 10.0	1514.5	11.7	95
16	7	1966	0.0	0 0	-39 12.0	-156 55.0	1526.2	9.8	99
16	7	1966	0.0	2 0	-39 15.0	-156 30.0	1545.8	10.9	97
16	7	1966	0.0	7 0	-39 22.0	-155 20.0	1600.4	9.6	105
16	7	1966	0.0	725	-39 23.0	-155 15.0	1604.4	9.8	104
16	7	1966	0.0	10 0	-39 29.0	-154 43.0	1629.8	10.1	99
16	7	1966	0.0	12 0	-39 32.0	-154 17.0	1650.1	9.4	99
16	7	1966	0.0	16 0	-39 38.0	-153 29.0	1687.6	10.5	101
16	7	1966	0.0	21 0	-39 48.0	-152 22.0	1740.1	4.7	90
16	7	1966	0.0	2120	-39 48.0	-152 20.0	1741.6	8.3	94
16	7	1966	0.0	23 0	-39 49.0	-152 2.0	1755.5	10.9	101
17	7	1966	0.0	1 0	-39 53.0	-151 34.0	1777.3	10.8	95
17	7	1966	0.0	3 0	-39 55.0	-151 6.0	1798.9	11.9	95
17	7	1966	0.0	5 0	-39 57.0	-150 35.0	1822.8	9.3	90
17	7	1966	0.0	520	-39 57.0	-150 31.0	1825.8	4.0	102
17	7	1966	0.0	9 0	-40 0.0	-150 12.0	1840.7	4.6	90
17	7	1966	0.0	11 0	-40 0.0	-150 0.0	1849.9	0.0	90
17	7	1966	0.0	16 0	-40 0.0	-150 0.0	1849.9	2.0	0
17	7	1966	0.0	17 0	-39 58.0	-150 0.0	1851.9	0.3	323
17	7	1966	0.0	21 0	-39 57.0	-150 1.0	1853.1	0.1	217
18	7	1966	0.0	550	-39 58.0	-150 2.0	1854.4	0.9	143
18	7	1966	0.0	10 0	-40 1.0	-149 59.0	1858.2	1.3	143
18	7	1966	0.0	1345	-40 5.0	-149 55.0	1863.2	4.0	180
18	7	1966	0.0	14 0	-40 6.0	-149 55.0	1864.2	3.1	112
18	7	1966	0.0	1730	-40 10.0	-149 42.0	1874.9	5.0	143
18	7	1966	0.0	18 0	-40 12.0	-149 40.0	1877.4	7.3	141
18	7	1966	0.0	21 0	-40 29.0	-149 22.0	1899.3	1.0	123
18	7	1966	0.0	2250	-40 30.0	-149 20.0	1901.1	10.6	123
18	7	1966	0.0	23 0	-40 31.0	-149 18.0	1902.9	8.8	147
19	7	1966	0.0	2 0	-40 53.0	-148 59.0	1929.2	10.6	143
19	7	1966	0.0	4 0	-41 10.0	-148 42.0	1950.5	10.5	144
19	7	1966	0.0	10 0	-42 1.0	-147 53.0	2013.3	7.2	134
19	7	1966	0.0	11 0	-42 6.0	-147 46.0	2020.5	5.2	163
19	7	1966	0.0	12 0	-42 11.0	-147 44.0	2025.7	3.5	224
19	7	1966	0.0	16 0	-42 21.0	-147 57.0	2039.6	1.0	180

ELTANIN 24 AUCKLAND TO VALPARAISO

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
19	7	1966	0.0	17 0	-42 22.0	-147 57.0	2040.6	1.3	180
19	7	1966	0.0	21 0	-42 27.0	-147 57.0	2045.6	1.0	180
20	7	1966	0.0	3 0	-42 33.0	-147 57.0	2051.6	0.7	185
20	7	1966	0.0	15 0	-42 41.0	-147 58.0	2059.7	11.3	138
20	7	1966	0.0	18 0	-43 6.0	-147 27.0	2093.4	10.0	127
20	7	1966	0.0	21 0	-43 24.0	-146 54.0	2123.5	1.4	144
20	7	1966	0.0	2250	-43 26.0	-146 52.0	2125.9	8.2	137
21	7	1966	0.0	0 0	-43 33.0	-146 43.0	2135.5	9.5	142
21	7	1966	0.0	4 0	-44 3.0	-146 11.0	2173.4	10.3	141
21	7	1966	0.0	5 0	-44 11.0	-146 2.0	2183.7	11.2	135
21	7	1966	0.0	6 0	-44 19.0	-145 51.0	2194.9	7.8	140
21	7	1966	0.0	7 0	-44 25.0	-145 44.0	2202.7	9.1	139
21	7	1966	0.0	910	-44 40.0	-145 26.0	2222.4	3.1	156
21	7	1966	0.0	12 0	-44 48.0	-145 21.0	2231.2	2.8	176
21	7	1966	0.0	16 0	-44 59.0	-145 20.0	2242.2	0.7	130
21	7	1966	0.0	23 0	-45 2.0	-145 15.0	2246.8	0.8	137
22	7	1966	0.0	4 0	-45 5.0	-145 11.0	2251.0	0.7	180
22	7	1966	0.0	530	-45 6.0	-145 11.0	2252.0	1.6	151
22	7	1966	0.0	9 0	-45 11.0	-145 7.0	2257.7	2.4	163
22	7	1966	0.0	12 0	-45 18.0	-145 4.0	2265.0	6.6	3
22	7	1966	0.0	1822	-44 36.0	-145 1.0	2307.1	5.5	0
22	7	1966	0.0	2010	-44 26.0	-145 1.0	2317.1	5.2	0
22	7	1966	0.0	2130	-44 19.0	-145 1.0	2324.1	2.3	0
23	7	1966	0.0	1 0	-44 11.0	-145 1.0	2332.1	9.3	359
23	7	1966	0.0	7 0	-43 15.0	-145 2.0	2388.1	10.0	359
23	7	1966	0.0	10 0	-42 45.0	-145 3.0	2418.1	1.3	22
23	7	1966	0.0	19 0	-42 34.0	-144 57.0	2429.9	0.7	111
24	7	1966	0.0	240	-42 36.0	-144 50.0	2435.5	2.0	127
24	7	1966	0.0	655	-42 41.0	-144 41.0	2443.8	2.5	130
24	7	1966	0.0	10 0	-42 46.0	-144 33.0	2451.5	7.6	353
24	7	1966	0.0	17 0	-41 53.0	-144 42.0	2504.9	5.9	337
24	7	1966	0.0	2030	-41 34.0	-144 53.0	2525.6	5.6	323
24	7	1966	0.0	2137	-41 29.0	-144 58.0	2531.8	6.1	298
24	7	1966	0.0	23 0	-41 25.0	-145 8.0	2540.3	9.0	349
25	7	1966	0.0	4 0	-40 41.0	-145 19.0	2585.1	10.7	15
25	7	1966	0.0	7 0	-40 10.0	-145 8.0	2617.2	7.2	35
25	7	1966	0.0	841	-40 0.0	-144 59.0	2629.4	2.0	103
25	7	1966	0.0	13 0	-40 2.0	-144 48.0	2638.0	0.3	37
25	7	1966	0.0	23 0	-40 0.0	-144 46.0	2640.5	5.5	180
26	7	1966	0.0	1 0	-40 11.0	-144 46.0	2651.5	0.4	155
26	7	1966	0.0	1520	-40 16.0	-144 43.0	2657.0	7.8	119
26	7	1966	0.0	19 0	-40 30.0	-144 10.0	2685.8	9.1	127
26	7	1966	0.0	21 0	-40 41.0	-143 51.0	2703.9	4.3	135
26	7	1966	0.0	23 0	-40 47.0	-143 43.0	2712.5	7.1	127
27	7	1966	0.0	3 0	-41 4.0	-143 13.0	2740.8	7.8	130
27	7	1966	0.0	4 0	-41 9.0	-143 5.0	2748.6	7.8	105
27	7	1966	0.0	430	-41 10.0	-143 0.0	2752.5	12.0	90
27	7	1966	0.0	515	-41 10.0	-142 48.0	2761.6	1.8	114
27	7	1966	0.0	8 0	-41 12.0	-142 42.0	2766.5	0.9	135
27	7	1966	0.0	1240	-41 15.0	-142 38.0	2770.8	4.6	159

ELTANIN 24 AUCKLAND TO VALPARAISO

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
27	7	1966	0.0	15 0	-41 25.0	-142 33.0	2781.4	1.2	143
27	7	1966	0.0	23 0	-41 33.0	-142 25.0	2791.4	1.0	105
28	7	1966	0.0	637	-41 35.0	-142 15.0	2799.2	2.4	153
28	7	1966	0.0	8 0	-41 38.0	-142 13.0	2802.5	2.1	112
28	7	1966	0.0	1145	-41 41.0	-142 3.0	2810.6	1.2	114
28	7	1966	0.0	1345	-41 42.0	-142 0.0	2813.0	7.2	124
28	7	1966	0.0	15 0	-41 47.0	-141 50.0	2822.0	8.5	135
28	7	1966	0.0	16 0	-41 53.0	-141 42.0	2830.5	8.3	105
28	7	1966	0.0	1910	-42 0.0	-141 8.0	2856.7	0.9	90
28	7	1966	0.0	20 0	-42 0.0	-141 7.0	2857.5	10.0	176
28	7	1966	0.0	21 0	-42 10.0	-141 6.0	2867.5	7.0	174
28	7	1966	0.0	22 0	-42 17.0	-141 5.0	2874.5	9.9	133
29	7	1966	0.0	3 0	-42 51.0	-140 16.0	2924.1	11.9	100
29	7	1966	0.0	4 0	-42 53.0	-140 0.0	2936.0	10.5	180
29	7	1966	0.0	440	-43 0.0	-140 0.0	2943.0	0.4	90
29	7	1966	0.0	1220	-43 0.0	-139 56.0	2945.9	1.7	90
29	7	1966	0.0	17 0	-43 0.0	-139 45.0	2954.0	0.7	90
29	7	1966	0.0	21 0	-43 0.0	-139 41.0	2956.9	0.5	115
30	7	1966	0.0	2 0	-43 1.0	-139 38.0	2959.3	2.9	90
30	7	1966	0.0	3 0	-43 1.0	-139 34.0	2962.2	0.5	0
30	7	1966	0.0	5 0	-43 0.0	-139 34.0	2963.2	3.4	12
30	7	1966	0.0	8 0	-42 50.0	-139 31.0	2973.5	1.2	246
30	7	1966	0.0	12 0	-42 52.0	-139 37.0	2978.3	1.5	312
30	7	1966	0.0	14 0	-42 50.0	-139 40.0	2981.3	7.5	355
30	7	1966	0.0	20 0	-42 5.0	-139 45.0	3026.4	8.8	356
30	7	1966	0.0	2115	-41 54.0	-139 46.0	3037.4	5.3	0
30	7	1966	0.0	22 0	-41 50.0	-139 46.0	3041.4	7.8	351
31	7	1966	0.0	5 0	-40 56.0	-139 58.0	3096.2	9.1	349
31	7	1966	0.0	735	-40 33.0	-140 4.0	3119.6	0.7	44
31	7	1966	0.0	1545	-40 29.0	-139 59.0	3125.2	0.9	31
31	7	1966	0.0	22 0	-40 24.0	-139 55.0	3131.0	5.4	346
31	7	1966	0.0	2235	-40 21.0	-139 56.0	3134.1	8.5	358
1	8	1966	0.0	4 0	-39 35.0	-139 58.0	3180.1	10.0	356
1	8	1966	0.0	5 0	-39 25.0	-139 59.0	3190.2	10.0	356
1	8	1966	0.0	730	-39 0.0	-140 1.0	3215.2	8.1	358
1	8	1966	0.0	1430	-38 3.0	-140 4.0	3272.2	8.7	46
1	8	1966	0.0	15 0	-38 0.0	-140 0.0	3276.6	0.1	218
2	8	1966	0.0	1 0	-38 1.0	-140 1.0	3277.9	0.8	218
2	8	1966	0.0	540	-38 4.0	-140 4.0	3281.7	1.4	238
2	8	1966	0.0	7 0	-38 5.0	-140 6.0	3283.6	4.3	270
2	8	1966	0.0	732	-38 5.0	-140 9.0	3285.9	7.4	142
2	8	1966	0.0	19 0	-39 12.0	-139 2.0	3370.9	4.2	96
2	8	1966	0.0	2115	-39 13.0	-138 50.0	3380.3	1.9	108
2	8	1966	0.0	23 0	-39 14.0	-138 46.0	3383.5	3.1	99
3	8	1966	0.0	1 0	-39 15.0	-138 38.0	3389.8	4.4	120
3	8	1966	0.0	315	-39 20.0	-138 27.0	3399.7	9.9	148
3	8	1966	0.0	1130	-40 29.0	-137 30.0	3481.4	0.8	53
3	8	1966	0.0	20 0	-40 25.0	-137 23.0	3488.0	1.8	255
4	8	1966	0.0	020	-40 27.0	-137 33.0	3495.9	11.5	143
4	8	1966	0.0	17 0	-43 0.0	-135 0.0	3686.8	3.2	56

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
4	8	1966	0.0	1733	-42 59.0	-134 58.0	3688.6	1.7	67
5	8	1966	0.0	1 0	-42 54.0	-134 42.0	3701.3	0.5	79
5	8	1966	0.0	1122	-42 53.0	-134 35.0	3706.6	0.8	14
5	8	1966	0.0	15 0	-42 50.0	-134 34.0	3709.6	2.5	346
5	8	1966	0.0	1615	-42 47.0	-134 35.0	3712.7	2.5	16
5	8	1966	0.0	2230	-42 32.0	-134 29.0	3728.4	1.1	36
5	8	1966	0.0	2340	-42 31.0	-134 28.0	3729.6	1.6	43
6	8	1966	0.0	3 0	-42 27.0	-134 23.0	3735.0	2.0	0
6	8	1966	0.0	4 0	-42 25.0	-134 23.0	3737.0	10.2	347
6	8	1966	0.0	5 0	-42 15.0	-134 26.0	3747.3	5.8	334
6	8	1966	0.0	535	-42 12.0	-134 28.0	3750.6	8.7	346
6	8	1966	0.0	17 0	-40 36.0	-135 0.0	3849.6	5.0	323
6	8	1966	0.0	1715	-40 35.0	-135 1.0	3850.8	0.6	270
7	8	1966	0.0	11 0	-40 35.0	-135 16.0	3862.2	1.5	270
7	8	1966	0.0	1130	-40 35.0	-135 17.0	3863.0	0.6	270
7	8	1966	0.0	14 0	-40 35.0	-135 19.0	3864.5	1.3	323
7	8	1966	0.0	15 0	-40 34.0	-135 20.0	3865.8	1.0	270
7	8	1966	0.0	1630	-40 34.0	-135 22.0	3867.3	1.5	270
7	8	1966	0.0	17 0	-40 34.0	-135 23.0	3868.0	1.3	270
7	8	1966	0.0	1735	-40 34.0	-135 24.0	3868.8	1.8	294
7	8	1966	0.0	19 0	-40 33.0	-135 27.0	3871.3	1.8	303
7	8	1966	0.0	20 0	-40 32.0	-135 29.0	3873.1	1.7	294
7	8	1966	0.0	23 0	-40 30.0	-135 35.0	3878.1	1.5	270
8	8	1966	0.0	0 0	-40 30.0	-135 37.0	3879.6	7.9	7
8	8	1966	0.0	5 0	-39 51.0	-135 31.0	3918.9	7.2	12
8	8	1966	0.0	6 0	-39 44.0	-135 29.0	3926.0	8.7	5
8	8	1966	0.0	9 0	-39 18.0	-135 26.0	3952.1	8.0	6
8	8	1966	0.0	10 0	-39 10.0	-135 25.0	3960.2	9.1	16
8	8	1966	0.0	18 0	-38 0.0	-135 0.0	4032.9	0.6	82
9	8	1966	0.0	544	-37 59.0	-134 51.0	4040.0	2.9	122
9	8	1966	0.0	7 0	-38 1.0	-134 47.0	4043.8	1.5	134
9	8	1966	0.0	10 0	-38 4.0	-134 43.0	4048.1	6.1	180
9	8	1966	0.0	1010	-38 5.0	-134 43.0	4049.1	2.5	145
9	8	1966	0.0	15 0	-38 15.0	-134 34.0	4061.4	2.5	142
9	8	1966	0.0	16 0	-38 17.0	-134 32.0	4063.9	2.5	142
9	8	1966	0.0	18 0	-38 21.0	-134 28.0	4069.0	5.0	0
9	8	1966	0.0	19 0	-38 16.0	-134 28.0	4074.0	8.0	0
9	8	1966	0.0	21 0	-38 0.0	-134 28.0	4090.0	8.0	0
9	8	1966	0.0	2115	-37 58.0	-134 28.0	4092.0	1.3	0
9	8	1966	0.0	22 0	-37 57.0	-134 28.0	4093.0	5.5	0
10	8	1966	0.0	0 0	-37 46.0	-134 28.0	4104.0	10.4	0
10	8	1966	0.0	035	-37 40.0	-134 28.0	4110.0	9.2	1
10	8	1966	0.0	6 0	-36 50.0	-134 27.0	4160.0	9.1	2
10	8	1966	0.0	1130	-36 0.0	-134 25.0	4210.0	0.5	73
10	8	1966	0.0	19 0	-35 59.0	-134 21.0	4213.4	0.6	68
10	8	1966	0.0	2330	-35 58.0	-134 18.0	4216.0	0.7	90
11	8	1966	0.0	245	-35 58.0	-134 15.0	4218.5	10.3	141
11	8	1966	0.0	3 0	-36 0.0	-134 13.0	4221.0	2.5	131
11	8	1966	0.0	6 0	-36 5.0	-134 6.0	4228.6	2.4	90
11	8	1966	0.0	9 0	-36 5.0	-133 57.0	4235.9	3.2	90

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
11	8	1966	0.0	915	-36 5.0	-133 56.0	4236.7	8.6	162
11	8	1966	0.0	20 0	-37 33.0	-133 20.0	4329.3	9.3	165
11	8	1966	0.0	21 0	-37 42.0	-133 17.0	4338.6	5.1	142
11	8	1966	0.0	2115	-37 43.0	-133 16.0	4339.8	5.7	167
11	8	1966	0.0	2230	-37 50.0	-133 14.0	4347.0	8.4	165
12	8	1966	0.0	5 0	-38 43.0	-132 56.0	4401.9	8.6	163
12	8	1966	0.0	10 0	-39 24.0	-132 40.0	4444.7	9.2	168
12	8	1966	0.0	14 0	-40 0.0	-132 30.0	4481.5	0.3	205
13	8	1966	0.0	545	-40 5.0	-132 33.0	4487.0	1.5	180
13	8	1966	0.0	9 0	-40 10.0	-132 33.0	4492.0	2.1	166
13	8	1966	0.0	1030	-40 13.0	-132 32.0	4495.1	2.0	174
13	8	1966	0.0	14 0	-40 20.0	-132 31.0	4502.2	2.0	180
13	8	1966	0.0	15 0	-40 22.0	-132 31.0	4504.2	2.1	180
13	8	1966	0.0	1846	-40 30.0	-132 31.0	4512.2	6.4	129
13	8	1966	0.0	22 0	-40 43.0	-132 10.0	4532.7	8.8	127
14	8	1966	0.0	5 0	-41 20.0	-131 5.0	4594.2	9.0	124
14	8	1966	0.0	6 0	-41 25.0	-130 55.0	4603.2	8.9	128
14	8	1966	0.0	12 0	-41 58.0	-129 59.0	4656.4	0.2	217
14	8	1966	0.0	18 0	-41 59.0	-130 0.0	4657.7	0.5	217
14	8	1966	0.0	2235	-42 1.0	-130 2.0	4660.2	1.2	312
15	8	1966	0.0	1 0	-41 59.0	-130 5.0	4663.2	2.5	323
15	8	1966	0.0	2 0	-41 57.0	-130 7.0	4665.7	2.2	328
15	8	1966	0.0	9 0	-41 44.0	-130 18.0	4681.0	4.0	332
15	8	1966	0.0	11 0	-41 37.0	-130 23.0	4689.0	6.1	0
15	8	1966	0.0	1120	-41 35.0	-130 23.0	4691.0	3.0	0
15	8	1966	0.0	12 0	-41 33.0	-130 23.0	4693.0	7.5	6
15	8	1966	0.0	20 0	-40 33.0	-130 15.0	4753.3	9.1	10
15	8	1966	0.0	21 0	-40 24.0	-130 13.0	4762.4	4.1	11
15	8	1966	0.0	22 0	-40 20.0	-130 12.0	4766.5	7.1	7
16	8	1966	0.0	3 0	-39 45.0	-130 6.0	4801.8	7.0	0
16	8	1966	0.0	4 0	-39 38.0	-130 6.0	4808.8	0.6	285
16	8	1966	0.0	11 0	-39 37.0	-130 11.0	4812.7	0.6	237
16	8	1966	0.0	1415	-39 38.0	-130 13.0	4814.6	1.0	237
16	8	1966	0.0	16 0	-39 39.0	-130 15.0	4816.4	1.3	218
16	8	1966	0.0	17 0	-39 40.0	-130 16.0	4817.7	0.7	90
16	8	1966	0.0	2015	-39 40.0	-130 13.0	4820.0	0.7	90
16	8	1966	0.0	2125	-39 40.0	-130 12.0	4820.8	1.3	153
17	8	1966	0.0	0 0	-39 43.0	-130 10.0	4824.1	4.3	159
17	8	1966	0.0	1 0	-39 47.0	-130 8.0	4828.4	5.8	170
17	8	1966	0.0	4 0	-40 4.0	-130 4.0	4845.7	0.9	57
17	8	1966	0.0	6 0	-40 3.0	-130 2.0	4847.5	8.0	0
17	8	1966	0.0	7 0	-39 55.0	-130 2.0	4855.5	8.5	359
17	8	1966	0.0	11 0	-39 21.0	-130 3.0	4889.5	8.4	359
17	8	1966	0.0	18 0	-38 22.0	-130 4.0	4948.5	6.0	0
17	8	1966	0.0	19 0	-38 16.0	-130 4.0	4954.5	8.0	0
17	8	1966	0.0	21 0	-38 0.0	-130 4.0	4970.5	4.1	76
17	8	1966	0.0	22 0	-37 59.0	-129 59.0	4974.6	8.8	0
18	8	1966	0.0	4 0	-37 6.0	-129 59.0	5027.6	6.1	352
18	8	1966	0.0	5 0	-37 0.0	-130 0.0	5033.6	0.6	158
18	8	1966	0.0	12 0	-37 4.0	-129 58.0	5038.0	1.3	180

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
18	8	1966	0.0	1330	-37 6.0	-129 58.0	5039.9	0.8	238
18	8	1966	0.0	1545	-37 7.0	-130 0.0	5041.8	0.7	180
18	8	1966	0.0	1829	-37 9.0	-130 0.0	5043.8	1.9	180
18	8	1966	0.0	19 0	-37 10.0	-130 0.0	5044.8	0.4	219
18	8	1966	0.0	2230	-37 11.0	-130 1.0	5046.1	1.2	191
19	8	1966	0.0	2 0	-37 15.0	-130 2.0	5050.2	4.3	202
19	8	1966	0.0	230	-37 17.0	-130 3.0	5052.3	2.4	180
19	8	1966	0.0	5 0	-37 23.0	-130 3.0	5058.3	2.2	202
19	8	1966	0.0	6 0	-37 25.0	-130 4.0	5060.5	8.0	180
19	8	1966	0.0	7 0	-37 33.0	-130 4.0	5068.5	8.9	132
19	8	1966	0.0	20 0	-38 50.0	-128 15.0	5183.7	8.6	134
19	8	1966	0.0	21 0	-38 56.0	-128 7.0	5192.3	4.1	131
19	8	1966	0.0	2145	-38 58.0	-128 4.0	5195.4	8.9	136
20	8	1966	0.0	2 0	-39 25.0	-127 30.0	5233.1	6.8	137
20	8	1966	0.0	3 0	-39 30.0	-127 24.0	5239.9	0.4	270
20	8	1966	0.0	5 0	-39 30.0	-127 25.0	5240.7	0.5	180
20	8	1966	0.0	710	-39 31.0	-127 25.0	5241.7	0.4	218
20	8	1966	0.0	14 0	-39 33.0	-127 27.0	5244.2	0.0	90
20	8	1966	0.0	1430	-39 33.0	-127 27.0	5244.2	2.2	108
20	8	1966	0.0	16 0	-39 34.0	-127 23.0	5247.5	2.3	90
20	8	1966	0.0	17 0	-39 34.0	-127 20.0	5249.8	3.1	90
20	8	1966	0.0	1730	-39 34.0	-127 18.0	5251.3	2.7	137
20	8	1966	0.0	20 0	-39 39.0	-127 12.0	5258.1	6.7	142
20	8	1966	0.0	2034	-39 42.0	-127 9.0	5261.9	3.4	128
20	8	1966	0.0	22 0	-39 45.0	-127 4.0	5266.8	1.6	99
21	8	1966	0.0	2 0	-39 46.0	-126 56.0	5273.0	6.8	90
21	8	1966	0.0	315	-39 46.0	-126 45.0	5281.5	8.5	139
21	8	1966	0.0	7 0	-40 10.0	-126 18.0	5313.2	7.4	162
21	8	1966	0.0	8 0	-40 17.0	-126 15.0	5320.5	9.2	150
21	8	1966	0.0	9 0	-40 25.0	-126 9.0	5329.8	8.8	143
21	8	1966	0.0	10 0	-40 32.0	-126 2.0	5338.5	8.1	150
21	8	1966	0.0	18 0	-41 28.0	-125 19.0	5403.3	6.7	138
21	8	1966	0.0	19 0	-41 33.0	-125 13.0	5410.0	6.9	156
21	8	1966	0.0	2230	-41 55.0	-125 0.0	5434.0	10.0	180
21	8	1966	0.0	23 0	-42 0.0	-125 0.0	5439.0	1.5	14
22	8	1966	0.0	3 0	-41 54.0	-124 58.0	5445.2	0.6	114
22	8	1966	0.0	1050	-41 56.0	-124 52.0	5450.1	1.8	117
22	8	1966	0.0	1430	-41 59.0	-124 44.0	5456.8	0.0	90
22	8	1966	0.0	15 0	-41 59.0	-124 44.0	5456.8	7.2	124
22	8	1966	0.0	1515	-42 0.0	-124 42.0	5458.6	2.9	161
22	8	1966	0.0	20 0	-42 13.0	-124 36.0	5472.3	2.1	160
22	8	1966	0.0	21 0	-42 15.0	-124 35.0	5474.4	3.5	150
23	8	1966	0.0	0 0	-42 24.0	-124 28.0	5484.8	9.0	100
23	8	1966	0.0	040	-42 25.0	-124 20.0	5490.8	9.8	353
23	8	1966	0.0	6 0	-41 33.0	-124 29.0	5543.2	9.6	349
23	8	1966	0.0	15 0	-40 8.0	-124 50.0	5629.7	8.4	349
23	8	1966	0.0	1845	-39 37.0	-124 58.0	5661.3	17.1	339
23	8	1966	0.0	19 0	-39 33.0	-125 0.0	5665.6	0.2	90
24	8	1966	0.0	2 0	-39 33.0	-124 56.0	5667.1	1.5	23
24	8	1966	0.0	830	-39 24.0	-124 53.0	5676.9	3.7	237

ELTANIN 24 AUCKLAND TO VALPARAISO

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
24	8	1966	0.0	9 0	-39 25.0	-124 55.0	5678.8	1.8	237
24	8	1966	0.0	10 0	-39 26.0	-124 57.0	5680.6	1.8	237
24	8	1966	0.0	11 0	-39 27.0	-124 59.0	5682.4	2.2	226
24	8	1966	0.0	13 0	-39 30.0	-125 3.0	5686.7	7.7	218
24	8	1966	0.0	1310	-39 31.0	-125 4.0	5688.0	2.0	237
24	8	1966	0.0	15 0	-39 33.0	-125 8.0	5691.7	1.5	270
24	8	1966	0.0	16 0	-39 33.0	-125 10.0	5693.2	1.5	270
24	8	1966	0.0	17 0	-39 33.0	-125 12.0	5694.8	2.5	247
24	8	1966	0.0	18 0	-39 34.0	-125 15.0	5697.3	3.7	237
24	8	1966	0.0	19 0	-39 36.0	-125 19.0	5701.0	2.2	243
24	8	1966	0.0	21 0	-39 38.0	-125 24.0	5705.3	1.3	218
24	8	1966	0.0	22 0	-39 39.0	-125 25.0	5706.6	0.0	90
24	8	1966	0.0	2230	-39 39.0	-125 25.0	5706.6	2.0	0
24	8	1966	0.0	23 0	-39 38.0	-125 25.0	5707.6	3.0	0
25	8	1966	0.0	0 0	-39 35.0	-125 25.0	5710.6	8.3	16
25	8	1966	0.0	1 0	-39 27.0	-125 22.0	5718.9	4.1	11
25	8	1966	0.0	2 0	-39 23.0	-125 21.0	5723.0	7.0	6
25	8	1966	0.0	3 0	-39 16.0	-125 20.0	5730.0	6.0	7
25	8	1966	0.0	4 0	-39 10.0	-125 19.0	5736.1	7.0	6
25	8	1966	0.0	5 0	-39 3.0	-125 18.0	5743.1	6.0	0
25	8	1966	0.0	6 0	-38 57.0	-125 18.0	5749.1	8.3	3
25	8	1966	0.0	17 0	-37 26.0	-125 12.0	5840.2	7.0	0
25	8	1966	0.0	18 0	-37 19.0	-125 12.0	5847.2	11.1	0
25	8	1966	0.0	1822	-37 15.0	-125 12.0	5851.2	3.4	22
25	8	1966	0.0	19 0	-37 13.0	-125 11.0	5853.4	5.0	0
25	8	1966	0.0	20 0	-37 8.0	-125 11.0	5858.4	4.0	0
25	8	1966	0.0	2015	-37 7.0	-125 11.0	5859.4	1.7	39
25	8	1966	0.0	21 0	-37 6.0	-125 10.0	5860.6	6.8	5
26	8	1966	0.0	1 0	-36 39.0	-125 7.0	5887.8	9.0	5
26	8	1966	0.0	2 0	-36 30.0	-125 6.0	5896.8	6.1	8
26	8	1966	0.0	3 0	-36 24.0	-125 5.0	5902.8	9.0	0
26	8	1966	0.0	4 0	-36 15.0	-125 5.0	5911.8	10.0	2
26	8	1966	0.0	6 0	-35 55.0	-125 4.0	5931.9	9.0	5
26	8	1966	0.0	7 0	-35 46.0	-125 3.0	5940.9	11.0	0
26	8	1966	0.0	8 0	-35 35.0	-125 3.0	5951.9	7.0	0
26	8	1966	0.0	9 0	-35 28.0	-125 3.0	5958.9	9.5	2
26	8	1966	0.0	11 0	-35 9.0	-125 2.0	5977.9	8.0	0
26	8	1966	0.0	12 0	-35 1.0	-125 2.0	5985.9	1.0	169
27	8	1966	0.0	040	-35 14.0	-124 59.0	5999.1	4.9	90
27	8	1966	0.0	1 0	-35 14.0	-124 57.0	6000.8	1.3	141
27	8	1966	0.0	2 0	-35 15.0	-124 56.0	6002.1	1.3	141
27	8	1966	0.0	3 0	-35 16.0	-124 55.0	6003.4	1.6	90
27	8	1966	0.0	330	-35 16.0	-124 54.0	6004.2	3.9	84
27	8	1966	0.0	6 0	-35 15.0	-124 42.0	6014.0	3.3	90
27	8	1966	0.0	7 0	-35 15.0	-124 38.0	6017.3	3.5	90
27	8	1966	0.0	14 0	-35 15.0	-124 8.0	6041.8	3.4	107
27	8	1966	0.0	15 0	-35 16.0	-124 4.0	6045.2	3.3	90
27	8	1966	0.0	16 0	-35 16.0	-124 0.0	6048.5	6.6	97
27	8	1966	0.0	1715	-35 17.0	-123 50.0	6056.7	5.4	90
27	8	1966	0.0	18 0	-35 17.0	-123 45.0	6060.8	8.2	90

ELTANIN 24 AUCKLAND TO VALPARAISO

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
27	8	1966	0.0	19 0	-35 17.0	-123 35.0	6068.9	11.5	95
27	8	1966	0.0	20 0	-35 18.0	-123 21.0	6080.4	9.8	90
27	8	1966	0.0	21 0	-35 18.0	-123 9.0	6090.2	9.4	93
28	8	1966	0.0	1 0	-35 20.0	-122 23.0	6127.8	6.5	90
28	8	1966	0.0	130	-35 20.0	-122 19.0	6131.0	9.7	92
28	8	1966	0.0	9 0	-35 22.0	-120 50.0	6203.7	9.0	91
28	8	1966	0.0	21 0	-35 23.0	-118 37.0	6312.1	7.1	92
29	8	1966	0.0	1 0	-35 24.0	-118 2.0	6340.7	8.2	94
29	8	1966	0.0	6 0	-35 27.0	-117 12.0	6381.5	11.8	95
29	8	1966	0.0	11 0	-35 32.0	-116 0.0	6440.3	9.8	96
29	8	1966	0.0	12 0	-35 33.0	-115 48.0	6450.2	9.7	88
29	8	1966	0.0	19 0	-35 31.0	-114 25.0	6517.7	10.6	85
29	8	1966	0.0	20 0	-35 30.0	-114 12.0	6528.4	2.6	68
29	8	1966	0.0	21 0	-35 29.0	-114 9.0	6531.0	7.8	83
29	8	1966	0.0	23 0	-35 27.0	-113 50.0	6546.6	11.4	90
30	8	1966	0.0	0 0	-35 27.0	-113 36.0	6558.0	10.0	96
30	8	1966	0.0	8 0	-35 36.0	-111 58.0	6638.3	10.1	91
30	8	1966	0.0	19 0	-35 38.0	-109 42.0	6748.9	3.3	90
30	8	1966	0.0	1915	-35 38.0	-109 41.0	6749.7	1.1	90
30	8	1966	0.0	20 0	-35 38.0	-109 40.0	6750.5	8.5	93
31	8	1966	0.0	0 0	-35 40.0	-108 58.0	6784.7	10.6	95
31	8	1966	0.0	1 0	-35 41.0	-108 45.0	6795.3	9.3	95
31	8	1966	0.0	9 0	-35 47.0	-107 14.0	6869.4	9.7	90
31	8	1966	0.0	10 0	-35 47.0	-107 2.0	6879.1	8.9	91
31	8	1966	0.0	19 0	-35 49.0	-105 23.0	6959.4	4.9	90
31	8	1966	0.0	1910	-35 49.0	-105 22.0	6960.2	4.8	90
31	8	1966	0.0	20 0	-35 49.0	-105 17.0	6964.3	8.5	95
1	9	1966	0.0	0 0	-35 52.0	-104 35.0	6998.5	9.4	92
1	9	1966	0.0	8 0	-35 54.0	-103 2.0	7073.9	10.0	92
1	9	1966	0.0	19 0	-35 57.0	-100 49.0	7181.6	9.7	90
1	9	1966	0.0	1910	-35 57.0	-100 47.0	7183.6	1.6	140
1	9	1966	0.0	20 0	-35 56.0	-100 46.0	7184.9	11.2	90
1	9	1966	0.0	21 0	-35 56.0	-100 31.0	7196.2	11.2	90
1	9	1966	0.0	22 0	-35 56.0	-100 16.0	7207.4	10.0	100
1	9	1966	0.0	23 0	-35 54.0	-100 05.0	7217.4	8.2	90
2	9	1966	0.0	0 0	-35 54.0	- 99 55.0	7225.6	6.4	90
2	9	1966	0.0	1 0	-35 54.0	-99 47.0	7232.0	9.5	93
2	9	1966	0.0	14 0	-36 0.0	-97 14.0	7356.0	8.9	90
2	9	1966	0.0	15 0	-36 0.0	-97 3.0	7364.9	9.7	94
2	9	1966	0.0	18 0	-36 2.0	-96 27.0	7394.1	9.8	96
2	9	1966	0.0	19 0	-36 3.0	-96 15.0	7403.8	5.8	90
2	9	1966	0.0	2015	-36 3.0	-96 6.0	7411.1	8.8	95
2	9	1966	0.0	23 0	-36 5.0	-95 36.0	7435.4	9.7	90
3	9	1966	0.0	0 0	-36 5.0	-95 24.0	7445.1	2.0	191
3	9	1966	0.0	2 0	-36 9.0	-95 25.0	7449.2	3.1	195
3	9	1966	0.0	3 0	-36 12.0	-95 26.0	7452.3	9.4	94
3	9	1966	0.0	13 0	-36 18.0	-93 30.0	7546.1	8.5	93
3	9	1966	0.0	17 0	-36 20.0	-92 48.0	7580.0	8.9	90
3	9	1966	0.0	18 0	-36 20.0	-92 37.0	7588.8	8.2	91
3	9	1966	0.0	23 0	-36 21.0	-91 46.0	7629.9	9.0	90

ELTANIN 24 AUCKLAND TO VALPARAISO

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
4	9	1966	0.0	5 0	-36 21.0	-90 39.0	7683.9	9.0	96
4	9	1966	0.0	12 0	-36 28.0	-89 21.0	7747.0	10.5	95
4	9	1966	0.0	13 0	-36 29.0	-89 8.0	7757.5	8.9	93
4	9	1966	0.0	22 0	-36 33.0	-87 28.0	7838.0	9.6	90
4	9	1966	0.0	23 0	-36 33.0	-87 16.0	7847.6	9.0	113
4	9	1966	0.0	2335	-36 35.0	-87 10.0	7852.9	2.5	188
5	9	1966	0.0	2 0	-36 41.0	-87 11.0	7858.9	1.3	180
5	9	1966	0.0	245	-36 42.0	-87 11.0	7859.9	9.0	89
5	9	1966	0.0	11 0	-36 41.0	-85 38.0	7934.5	9.4	90
5	9	1966	0.0	15 0	-36 41.0	-84 51.0	7972.2	9.1	90
5	9	1966	0.0	18 0	-36 41.0	-84 17.0	7999.5	8.8	90
5	9	1966	0.0	19 0	-36 41.0	-84 6.0	8008.3	9.6	90
5	9	1966	0.0	1915	-36 41.0	-84 3.0	8010.7	12.0	93
5	9	1966	0.0	23 0	-36 43.0	-83 7.0	8055.6	4.8	90
5	9	1966	0.0	2330	-36 43.0	-83 4.0	8058.0	6.6	67
6	9	1966	0.0	4 0	-36 42.0	-83 1.0	8060.6	1.1	39
6	9	1966	0.0	10 0	-36 37.0	-82 56.0	8067.0	0.8	90
6	9	1966	0.0	11 0	-36 37.0	-82 55.0	8067.8	2.6	39
6	9	1966	0.0	1130	-36 36.0	-82 54.0	8069.1	8.8	133
6	9	1966	0.0	12 0	-36 39.0	-82 50.0	8073.5	4.4	133
6	9	1966	0.0	13 0	-36 42.0	-82 46.0	8077.9	11.2	90
6	9	1966	0.0	14 0	-36 42.0	-82 32.0	8089.1	12.0	180
6	9	1966	0.0	15 0	-36 54.0	-82 32.0	8101.1	9.2	270
6	9	1966	0.0	19 0	-36 54.0	-83 18.0	8137.9	9.6	270
6	9	1966	0.0	20 0	-36 54.0	-83 30.0	8147.5	12.0	4
6	9	1966	0.0	21 0	-36 42.0	-83 29.0	8159.5	10.0	0
6	9	1966	0.0	22 0	-36 32.0	-83 29.0	8169.5	10.4	90
6	9	1966	0.0	23 0	-36 32.0	-83 16.0	8180.0	8.7	90
6	9	1966	0.0	2350	-36 32.0	-83 7.0	8187.2	11.0	122
7	9	1966	0.0	0 0	-36 33.0	-83 5.0	8189.1	8.0	90
7	9	1966	0.0	130	-36 33.0	-82 50.0	8201.2	7.7	90
7	9	1966	0.0	10 0	-36 33.0	-81 28.0	8267.0	7.5	105
7	9	1966	0.0	12 0	-36 37.0	-81 10.0	8282.0	7.6	94
7	9	1966	0.0	14 0	-36 38.0	-80 51.0	8297.3	8.8	90
7	9	1966	0.0	15 0	-36 38.0	-80 40.0	8306.1	8.2	91
8	9	1966	0.0	0 0	-36 39.0	-79 8.0	8380.0	9.0	92
8	9	1966	0.0	4 0	-36 40.0	-78 23.0	8416.1	8.8	90
8	9	1966	0.0	9 0	-36 40.0	-77 28.0	8460.2	9.2	90
8	9	1966	0.0	11 0	-36 40.0	-77 5.0	8478.6	8.7	91
8	9	1966	0.0	23 0	-36 41.0	-74 55.0	8582.9	8.4	91
9	9	1966	0.0	830	-36 42.0	-73 15.0	8663.1		

ELTANIN 25 VALPARAISO TO WELLINGTON

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
25	9	1966	0.0	0 0	-33 0.0	-72 51.0	0.0	5.0	270
25	9	1966	0.0	130	-33 0.0	-73 0.0	7.5	1.9	134
25	9	1966	0.0	14 0	-33 16.0	-72 40.0	30.7	8.1	254
26	9	1966	0.0	1 0	-33 40.0	-74 23.0	119.9	8.2	253
26	9	1966	0.0	11 0	-34 4.0	-75 57.0	201.6	9.3	254
26	9	1966	0.0	21 0	-34 30.0	-77 45.0	294.5	12.0	253
27	9	1966	0.0	030	-34 42.0	-78 34.0	336.6	9.6	248
27	9	1966	0.0	12 0	-35 24.0	-80 39.0	447.2	10.1	252
27	9	1966	0.0	23 0	-35 59.0	-82 49.0	558.5	7.3	262
28	9	1966	0.0	0 0	-36 0.0	-82 58.0	565.8	3.8	238
28	9	1966	0.0	030	-36 1.0	-83 0.0	567.7	3.1	183
28	9	1966	0.0	5 0	-36 15.0	-83 1.0	581.7	2.8	225
28	9	1966	0.0	7 0	-36 19.0	-83 6.0	587.4	2.1	216
28	9	1966	0.0	1215	-36 28.0	-83 14.0	598.5	0.9	186
28	9	1966	0.0	21 0	-36 36.0	-83 15.0	606.5	0.8	180
29	9	1966	0.0	035	-36 39.0	-83 15.0	609.5	1.2	152
29	9	1966	0.0	320	-36 42.0	-83 13.0	612.9	0.7	180
29	9	1966	0.0	6 0	-36 44.0	-83 13.0	614.9	2.6	198
29	9	1966	0.0	8 0	-36 49.0	-83 15.0	620.2	7.2	211
29	9	1966	0.0	18 0	-37 51.0	-84 1.0	692.2	9.9	218
30	9	1966	0.0	0 0	-38 38.0	-84 47.0	751.4	9.0	214
30	9	1966	0.0	1030	-39 56.0	-85 55.0	845.5	1.0	37
30	9	1966	0.0	1545	-39 52.0	-85 51.0	850.6	2.1	53
30	9	1966	0.0	19 0	-39 48.0	-85 44.0	857.3	3.2	115
30	9	1966	0.0	2330	-39 54.0	-85 27.0	871.6	3.4	83
1	10	1966	0.0	426	-39 52.0	-85 5.0	888.6	7.4	91
1	10	1966	0.0	10 0	-39 53.0	-84 11.0	930.1	10.0	97
1	10	1966	0.0	1530	-40 0.0	-83 0.0	985.0	0.8	43
2	10	1966	0.0	0 0	-39 55.0	-82 54.0	991.8	0.3	123
2	10	1966	0.0	6 0	-39 56.0	-82 52.0	993.6	1.7	153
2	10	1966	0.0	8 0	-39 59.0	-82 50.0	997.0	2.1	166
2	10	1966	0.0	1220	-40 8.0	-82 47.0	1006.3	7.6	309
2	10	1966	0.0	14 0	-40 0.0	-83 0.0	1019.0	10.1	229
3	10	1966	0.0	8 0	-42 0.0	-86 0.0	1200.3	1.2	281
3	10	1966	0.0	1215	-41 59.0	-86 7.0	1205.6	1.2	154
3	10	1966	0.0	15 0	-42 2.0	-86 5.0	1208.9	0.4	154
3	10	1966	0.0	23 0	-42 5.0	-86 3.0	1212.3	1.5	143
4	10	1966	0.0	130	-42 8.0	-86 0.0	1216.0	9.7	180
4	10	1966	0.0	13 0	-44 0.0	-86 0.0	1328.0	10.2	56
5	10	1966	0.0	1010	-41 58.0	-81 57.0	1543.6	0.3	0
5	10	1966	0.0	14 0	-41 57.0	-81 57.0	1544.6	1.5	186
5	10	1966	0.0	1835	-42 4.0	-81 58.0	1551.7	0.4	270
5	10	1966	0.0	2025	-42 4.0	-81 59.0	1552.4	2.2	191
5	10	1966	0.0	2215	-42 8.0	-82 0.0	1556.5	1.1	194
6	10	1966	0.0	1 0	-42 11.0	-82 1.0	1559.6	0.3	180
6	10	1966	0.0	440	-42 12.0	-82 1.0	1560.6	1.6	165
6	10	1966	0.0	12 0	-42 23.0	-81 57.0	1571.9	10.1	78
6	10	1966	0.0	23 0	-42 0.0	-79 30.0	1683.3	12.1	80
7	10	1966	0.0	0 0	-41 58.0	-79 14.0	1695.3	10.6	101
7	10	1966	0.0	1 0	-42 0.0	-79 0.0	1705.9	2.9	168

ELTANIN 25 VALPARAISO TO WELLINGTON

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
7	10	1966	0.0	330	-42 7.0	-78 58.0	1713.1	2.7	124
7	10	1966	0.0	810	-42 14.0	-78 44.0	1725.6	1.0	105
7	10	1966	0.0	1210	-42 15.0	-78 39.0	1729.4	1.2	154
7	10	1966	0.0	15 0	-42 18.0	-78 37.0	1732.8	0.2	124
7	10	1966	0.0	2220	-42 19.0	-78 35.0	1734.6	9.7	317
8	10	1966	0.0	1 0	-42 0.0	-78 59.0	1760.6	0.7	180
8	10	1966	0.0	230	-42 1.0	-78 59.0	1761.6	8.6	220
8	10	1966	0.0	1920	-43 51.0	-81 6.0	1905.6	8.5	222
8	10	1966	0.0	2230	-44 11.0	-81 31.0	1932.5	9.0	227
9	10	1966	0.0	1030	-45 25.0	-83 23.0	2041.1	9.7	216
9	10	1966	0.0	15 0	-46 0.0	-84 0.0	2084.6	0.5	90
9	10	1966	0.0	1619	-46 0.0	-83 59.0	2085.3	0.5	145
9	10	1966	0.0	2112	-46 2.0	-83 57.0	2087.7	2.1	145
9	10	1966	0.0	2220	-46 4.0	-83 55.0	2090.2	4.3	238
10	10	1966	0.0	1 0	-46 10.0	-84 9.0	2101.6	2.3	234
10	10	1966	0.0	145	-46 11.0	-84 11.0	2103.3	0.4	155
10	10	1966	0.0	1015	-46 14.0	-84 9.0	2106.6	2.1	188
10	10	1966	0.0	15 0	-46 24.0	-84 11.0	2116.7	0.5	145
10	10	1966	0.0	20 0	-46 26.0	-84 9.0	2119.1	8.3	228
11	10	1966	0.0	11 0	-47 50.0	-86 24.0	2243.6	8.2	227
11	10	1966	0.0	20 0	-48 40.0	-87 45.0	2317.1	6.1	231
12	10	1966	0.0	3 0	-49 7.0	-88 35.0	2359.7	6.4	227
12	10	1966	0.0	9 0	-49 33.0	-89 18.0	2397.9	4.9	232
12	10	1966	0.0	11 0	-49 39.0	-89 30.0	2407.7	4.6	226
12	10	1966	0.0	16 0	-49 55.0	-89 56.0	2430.9	5.0	207
12	10	1966	0.0	18 0	-50 4.0	-90 3.0	2441.0	0.6	153
13	10	1966	0.0	330	-50 9.0	-89 59.0	2446.6	1.3	154
13	10	1966	0.0	7 0	-50 13.0	-89 56.0	2451.0	1.1	213
13	10	1966	0.0	1015	-50 16.0	-89 59.0	2454.6	5.1	272
13	10	1966	0.0	15 0	-50 15.0	-90 37.0	2478.9	6.3	272
13	10	1966	0.0	21 0	-50 14.0	-91 36.0	2516.6	8.1	274
14	10	1966	0.0	5 0	-50 10.0	-93 17.0	2581.4	9.5	279
14	10	1966	0.0	12 0	-50 0.0	-95 0.0	2648.3	0.5	117
14	10	1966	0.0	1630	-50 1.0	-94 57.0	2650.4	1.7	159
14	10	1966	0.0	1940	-50 6.0	-94 54.0	2655.8	0.9	180
15	10	1966	0.0	237	-50 12.0	-94 54.0	2661.8	1.7	183
15	10	1966	0.0	9 0	-50 23.0	-94 55.0	2672.8	2.0	180
15	10	1966	0.0	12 0	-50 29.0	-94 55.0	2678.8	0.7	157
15	10	1966	0.0	1630	-50 32.0	-94 53.0	2682.1	7.5	279
15	10	1966	0.0	20 0	-50 28.0	-95 34.0	2708.4	8.7	278
16	10	1966	0.0	1 0	-50 22.0	-96 42.0	2752.2	9.9	277
16	10	1966	0.0	9 0	-50 13.0	-98 45.0	2831.3	8.8	282
16	10	1966	0.0	1430	-50 3.0	-99 59.0	2879.8	6.1	348
16	10	1966	0.0	15 0	-50 0.0	-100 0.0	2882.8	0.4	206
17	10	1966	0.0	2 0	-50 4.0	-100 3.0	2887.3	2.3	0
17	10	1966	0.0	5 0	-49 57.0	-100 3.0	2894.3	2.4	323
17	10	1966	0.0	15 0	-49 38.0	-100 25.0	2918.0	9.2	262
17	10	1966	0.0	21 0	-49 46.0	-101 49.0	2972.9	9.2	264
18	10	1966	0.0	10 0	-49 59.0	-104 53.0	3092.2	2.2	253
18	10	1966	0.0	1430	-50 2.0	-105 8.0	3102.3	0.8	203

ELTANIN 25 VALPARAISO TO WELLINGTON

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
18	10	1966	0.0	1845	-50 5.0	-105 10.0	3105.6	0.7	58
19	10	1966	0.0	0 0	-50 3.0	-105 5.0	3109.3	3.6	130
19	10	1966	0.0	3 0	-50 10.0	-104 52.0	3120.2	2.4	147
19	10	1966	0.0	4 0	-50 12.0	-104 50.0	3122.6	2.9	155
19	10	1966	0.0	640	-50 19.0	-104 45.0	3130.3	0.3	270
19	10	1966	0.0	1048	-50 19.0	-104 47.0	3131.6	3.1	270
19	10	1966	0.0	11 0	-50 19.0	-104 48.0	3132.2	7.6	272
19	10	1966	0.0	22 0	-50 16.0	-106 58.0	3215.3	7.1	275
20	10	1966	0.0	1 0	-50 14.0	-107 31.0	3236.5	5.8	280
20	10	1966	0.0	2 0	-50 13.0	-107 40.0	3242.4	8.2	281
20	10	1966	0.0	10 0	-50 0.0	-109 20.0	3307.8	8.6	270
20	10	1966	0.0	13 0	-50 0.0	-110 0.0	3333.5	2.1	355
20	10	1966	0.0	1625	-49 53.0	-110 1.0	3340.5	2.3	315
20	10	1966	0.0	2315	-49 42.0	-110 18.0	3356.1	1.4	327
21	10	1966	0.0	145	-49 39.0	-110 21.0	3359.6	1.2	327
21	10	1966	0.0	635	-49 34.0	-110 26.0	3365.6	2.1	311
21	10	1966	0.0	930	-49 30.0	-110 33.0	3371.7	0.5	270
21	10	1966	0.0	12 0	-49 30.0	-110 35.0	3373.0	8.9	264
21	10	1966	0.0	15 0	-49 33.0	-111 16.0	3399.7	8.2	259
21	10	1966	0.0	23 0	-49 45.0	-112 55.0	3464.9	7.7	257
22	10	1966	0.0	9 0	-50 3.0	-114 52.0	3542.4	5.2	259
22	10	1966	0.0	10 0	-50 4.0	-115 0.0	3547.7	0.5	128
22	10	1966	0.0	1310	-50 5.0	-114 58.0	3549.3	0.7	90
22	10	1966	0.0	17 0	-50 5.0	-114 54.0	3551.9	1.5	101
22	10	1966	0.0	2035	-50 6.0	-114 46.0	3557.1	0.5	270
23	10	1966	0.0	2 0	-50 6.0	-114 50.0	3559.6	1.9	270
23	10	1966	0.0	4 0	-50 6.0	-114 56.0	3563.5	6.8	270
23	10	1966	0.0	13 0	-50 6.0	-116 32.0	3625.1	9.5	271
24	10	1966	0.0	8 0	-50 4.0	-121 12.0	3804.8	9.1	268
24	10	1966	0.0	16 0	-50 6.0	-123 5.0	3877.3	9.5	270
25	10	1966	0.0	0 0	-50 6.0	-125 3.0	3953.0	9.7	272
25	10	1966	0.0	8 0	-50 3.0	-127 4.0	4030.7	6.7	277
25	10	1966	0.0	1030	-50 1.0	-127 30.0	4047.5	0.2	0
25	10	1966	0.0	15 0	-50 0.0	-127 30.0	4048.5	0.3	213
25	10	1966	0.0	1928	-50 1.0	-127 31.0	4049.7	1.8	180
25	10	1966	0.0	2215	-50 6.0	-127 31.0	4054.7	1.2	198
26	10	1966	0.0	145	-50 10.0	-127 33.0	4058.9	1.2	136
26	10	1966	0.0	4 0	-50 12.0	-127 30.0	4061.7	0.6	213
26	10	1966	0.0	8 0	-50 14.0	-127 32.0	4064.0	2.6	191
26	10	1966	0.0	13 0	-50 27.0	-127 36.0	4077.3	1.2	126
26	10	1966	0.0	20 0	-50 32.0	-127 25.0	4085.9	7.9	179
27	10	1966	0.0	5 0	-51 43.0	-127 23.0	4156.9	6.6	182
27	10	1966	0.0	12 0	-52 29.0	-127 26.0	4202.9	0.8	211
27	10	1966	0.0	1925	-52 34.0	-127 31.0	4208.8	6.2	174
27	10	1966	0.0	22 0	-52 50.0	-127 28.0	4224.9	7.4	174
28	10	1966	0.0	1 0	-53 12.0	-127 24.0	4247.0	8.0	182
28	10	1966	0.0	3 0	-53 28.0	-127 25.0	4263.0	8.4	183
28	10	1966	0.0	14 0	-55 0.0	-127 32.0	4355.1	0.3	191
29	10	1966	0.0	2 0	-55 3.0	-127 33.0	4358.2	6.0	122
29	10	1966	0.0	8 0	-55 22.0	-126 40.0	4393.9	2.2	128

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
29	10	1966	0.0	2125	-55 40.0	-126 0.0	4422.8	5.7	223
30	10	1966	0.0	1 0	-55 55.0	-126 25.0	4443.4	1.5	234
30	10	1966	0.0	315	-55 57.0	-126 30.0	4446.8	8.3	204
30	10	1966	0.0	1130	-57 0.0	-127 20.0	4515.6	2.4	185
30	10	1966	0.0	14 0	-57 6.0	-127 21.0	4521.6	8.8	179
30	10	1966	0.0	19 0	-57 50.0	-127 19.0	4565.6	6.4	213
30	10	1966	0.0	2040	-57 59.0	-127 30.0	4576.4	0.7	180
31	10	1966	0.0	048	-58 2.0	-127 30.0	4579.4	1.6	243
31	10	1966	0.0	5 0	-58 5.0	-127 41.0	4585.9	1.8	138
31	10	1966	0.0	1020	-58 12.0	-127 29.0	4595.4	9.5	179
31	10	1966	0.0	14 0	-58 47.0	-127 28.0	4630.4	10.7	184
31	10	1966	0.0	1530	-59 3.0	-127 30.0	4646.4	8.2	180
31	10	1966	0.0	1720	-59 18.0	-127 30.0	4661.4	8.6	181
31	10	1966	0.0	2213	-60 0.0	-127 31.0	4703.4	2.9	186
1	11	1966	0.0	140	-60 10.0	-127 33.0	4713.4	2.8	236
1	11	1966	0.0	415	-60 14.0	-127 45.0	4720.6	0.9	194
1	11	1966	0.0	630	-60 16.0	-127 46.0	4722.7	0.9	251
1	11	1966	0.0	10 0	-60 17.0	-127 52.0	4725.8	0.6	189
1	11	1966	0.0	15 0	-60 20.0	-127 53.0	4728.9	1.2	192
1	11	1966	0.0	21 0	-60 27.0	-127 56.0	4736.0	1.3	139
2	11	1966	0.0	5 0	-60 35.0	-127 42.0	4746.6	8.2	175
2	11	1966	0.0	11 0	-61 24.0	-127 33.0	4795.8	2.4	185
2	11	1966	0.0	1515	-61 34.0	-127 35.0	4805.8	8.0	178
2	11	1966	0.0	18 0	-61 56.0	-127 33.0	4827.8	7.7	192
2	11	1966	0.0	20 0	-62 11.0	-127 40.0	4843.2	8.7	166
2	11	1966	0.0	2215	-62 30.0	-127 30.0	4862.7	1.4	197
3	11	1966	0.0	034	-62 33.0	-127 32.0	4865.9	3.6	236
3	11	1966	0.0	8 0	-62 48.0	-128 20.0	4892.5	1.4	165
3	11	1966	0.0	1140	-62 53.0	-128 17.0	4897.7	1.2	167
3	11	1966	0.0	2011	-63 3.0	-128 12.0	4908.0	1.9	177
4	11	1966	0.0	1 0	-63 12.0	-128 11.0	4917.0	8.1	256
4	11	1966	0.0	8 0	-63 26.0	-130 14.0	4974.0	8.2	259
4	11	1966	0.0	10 0	-63 29.0	-130 50.0	4990.3	7.6	260
4	11	1966	0.0	13 0	-63 33.0	-131 40.0	5013.0	5.8	263
4	11	1966	0.0	17 0	-63 36.0	-132 32.0	5036.3	5.6	321
4	11	1966	0.0	20 0	-63 23.0	-132 56.0	5053.2	4.8	278
4	11	1966	0.0	2130	-63 22.0	-133 12.0	5060.4	8.7	248
5	11	1966	0.0	4 0	-63 43.0	-135 10.0	5117.0	8.5	263
5	11	1966	0.0	6 0	-63 45.0	-135 48.0	5134.0	8.1	254
5	11	1966	0.0	13 0	-64 1.0	-137 52.0	5190.8	7.5	265
5	11	1966	0.0	20 0	-64 6.0	-139 52.0	5243.6	6.2	251
5	11	1966	0.0	22 0	-64 10.0	-140 19.0	5256.0	6.0	251
5	11	1966	0.0	23 0	-64 12.0	-140 32.0	5262.0	7.5	259
6	11	1966	0.0	1 0	-64 15.0	-141 6.0	5277.1	6.4	256
6	11	1966	0.0	5 0	-64 21.0	-142 3.0	5302.5	6.6	261
6	11	1966	0.0	8 0	-64 24.0	-142 48.0	5322.2	7.5	270
6	11	1966	0.0	11 0	-64 24.0	-143 40.0	5344.7	5.8	260
6	11	1966	0.0	17 0	-64 30.0	-145 0.0	5379.7	2.2	157
6	11	1966	0.0	18 0	-64 32.0	-144 58.0	5381.9	4.3	104
6	11	1966	0.0	19 0	-64 33.0	-144 49.0	5385.9	0.3	128

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DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
7	11	1966	0.0	020	-64 34.0	-144 46.0	5387.5	1.1	168
7	11	1966	0.0	215	-64 36.0	-144 45.0	5389.6	1.1	164
7	11	1966	0.0	5 0	-64 39.0	-144 43.0	5392.7	9.5	357
7	11	1966	0.0	15 0	-63 4.0	-144 55.0	5487.8	11.2	322
7	11	1966	0.0	20 0	-62 20.0	-146 11.0	5544.0	8.1	319
8	11	1966	0.0	5 0	-61 25.0	-147 52.0	5616.7	9.7	319
8	11	1966	0.0	11 0	-60 41.0	-149 10.0	5674.7	10.6	319
8	11	1966	0.0	14 0	-60 17.0	-149 52.0	5706.4	7.7	321
8	11	1966	0.0	19 0	-59 47.0	-150 41.0	5745.1	6.4	318
8	11	1966	0.0	23 0	-59 28.0	-151 15.0	5770.7	3.6	326
9	11	1966	0.0	1 0	-59 22.0	-151 23.0	5778.0	5.4	325
9	11	1966	0.0	9 0	-58 47.0	-152 11.0	5820.8	8.2	323
9	11	1966	0.0	14 0	-58 14.0	-152 58.0	5861.9	8.4	317
9	11	1966	0.0	19 0	-57 43.0	-153 52.0	5904.1	8.4	315
9	11	1966	0.0	22 0	-57 25.0	-154 25.0	5929.4	7.7	335
10	11	1966	0.0	1 0	-57 4.0	-154 43.0	5952.5	7.0	305
10	11	1966	0.0	3 0	-56 56.0	-155 4.0	5966.5	7.8	310
10	11	1966	0.0	5 0	-56 46.0	-155 26.0	5982.1	3.1	318
10	11	1966	0.0	11 0	-56 32.0	-155 49.0	6001.0	6.8	312
10	11	1966	0.0	1510	-56 13.0	-156 27.0	6029.3	2.0	67
10	11	1966	0.0	19 0	-56 10.0	-156 14.0	6037.1	2.9	301
10	11	1966	0.0	1940	-56 9.0	-156 17.0	6039.1	0.6	90
11	11	1966	0.0	035	-56 9.0	-156 12.0	6041.9	1.3	270
11	11	1966	0.0	1 0	-56 9.0	-156 13.0	6042.4	0.7	90
11	11	1966	0.0	240	-56 9.0	-156 11.0	6043.5	0.0	90
11	11	1966	0.0	315	-56 9.0	-156 11.0	6043.5	0.9	90
11	11	1966	0.0	510	-56 9.0	-156 8.0	6045.2	4.6	29
11	11	1966	0.0	525	-56 8.0	-156 7.0	6046.4	0.5	209
11	11	1966	0.0	1024	-56 10.0	-156 9.0	6048.7	1.4	209
11	11	1966	0.0	18 0	-56 19.0	-156 18.0	6058.9	8.6	319
11	11	1966	0.0	20 0	-56 6.0	-156 38.0	6076.1	9.0	304
12	11	1966	0.0	6 0	-55 16.0	-158 51.0	6166.2	9.4	312
12	11	1966	0.0	10 0	-54 51.0	-159 40.0	6203.8	9.5	311
12	11	1966	0.0	14 0	-54 26.0	-160 29.0	6241.6	9.0	312
12	11	1966	0.0	16 0	-54 14.0	-160 52.0	6259.6	8.0	300
12	11	1966	0.0	21 0	-53 54.0	-161 51.0	6299.5	8.8	306
13	11	1966	0.0	1 0	-53 33.0	-162 39.0	6334.9	8.0	307
13	11	1966	0.0	6 0	-53 9.0	-163 33.0	6375.1	6.3	305
13	11	1966	0.0	11 0	-52 51.0	-164 16.0	6406.6	7.6	310
13	11	1966	0.0	18 0	-52 17.0	-165 23.0	6459.6	7.9	290
13	11	1966	0.0	22 0	-52 6.0	-166 11.0	6491.0	7.9	304
14	11	1966	0.0	11 0	-51 9.0	-168 28.0	6593.4	6.7	310
14	11	1966	0.0	17 0	-50 43.0	-169 17.0	6633.8	0.0	90
14	11	1966	0.0	1715	-50 43.0	-169 17.0	6633.8	1.1	162
14	11	1966	0.0	21 0	-50 47.0	-169 15.0	6638.0	2.0	108
14	11	1966	0.0	2240	-50 48.0	-169 10.0	6641.3	1.5	212
14	11	1966	0.0	2327	-50 49.0	-169 11.0	6642.5	5.6	303
15	11	1966	0.0	4 0	-50 35.0	-169 45.0	6668.2	7.4	303
15	11	1966	0.0	9 0	-50 15.0	-170 34.0	6705.2	8.8	307
15	11	1966	0.0	12 0	-49 59.0	-171 7.0	6731.8	8.4	310

ELTANIN 25 VALPARAISO TO WELLINGTON

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
15	11	1966	0.0	19 0	-49 21.0	-172 16.0	6790.4	0.9	213
15	11	1966	0.0	23 0	-49 24.0	-172 19.0	6794.0	1.8	243
16	11	1966	0.0	015	-49 25.0	-172 22.0	6796.2	7.5	304
16	11	1966	0.0	7 0	-48 57.0	-173 26.0	6846.5	5.9	305
16	11	1966	0.0	10 0	-48 47.0	-173 48.0	6864.1	6.1	302
16	11	1966	0.0	17 0	-48 24.0	-174 43.0	6907.2	7.8	301
16	11	1966	0.0	20 0	-48 12.0	-175 13.0	6930.4	7.0	297
17	11	1966	0.0	3 0	-47 50.0	-176 18.0	6979.2	6.4	306
17	11	1966	0.0	7 0	-47 35.0	-176 49.0	7004.9	6.9	306
17	11	1966	0.0	11 0	-47 19.0	-177 22.0	7032.3	8.8	306
17	11	1966	0.0	16 0	-46 53.0	-178 14.0	7076.2	8.8	305
18	11	1966	0.0	210	-46 1.0	-180 0.0	7165.9	9.8	268
18	11	1966	0.0	6 0	-46 2.0	179 6.0	7203.4	8.9	268
18	11	1966	0.0	12 0	-46 4.0	177 49.0	7256.9	8.6	277
18	11	1966	0.0	16 0	-46 0.0	177 0.0	7291.1	9.1	334
19	11	1966	0.0	0 0	-44 54.0	176 15.0	7364.3	9.3	338
19	11	1966	0.0	946	-43 30.0	175 27.0	7455.1	7.3	352
19	11	1966	0.0	1150	-43 15.0	175 24.0	7470.2	1.8	216
19	11	1966	0.0	1230	-43 16.0	175 23.0	7471.5	4.5	180
19	11	1966	0.0	1310	-43 19.0	175 23.0	7474.5	2.7	216
19	11	1966	0.0	15 0	-43 23.0	175 19.0	7479.4	6.1	251
19	11	1966	0.0	16 0	-43 25.0	175 11.0	7485.6	2.4	340
19	11	1966	0.0	1654	-43 23.0	175 10.0	7487.7	12.2	278
19	11	1966	0.0	1730	-43 22.0	175 0.0	7495.0	3.6	283
19	11	1966	0.0	1845	-43 21.0	174 54.0	7499.5	7.0	280
19	11	1966	0.0	1936	-43 20.0	174 46.0	7505.4	6.4	283
19	11	1966	0.0	21 0	-43 18.0	174 34.0	7514.3	4.9	49
20	11	1966	0.0	2 0	-43 2.0	174 59.0	7538.6	8.7	33
20	11	1966	0.0	535	-42 36.0	175 22.0	7569.6	7.1	312
20	11	1966	0.0	625	-42 32.0	175 16.0	7575.6	0.0	90
20	11	1966	0.0	8 0	-42 32.0	175 16.0	7575.6	7.1	350
20	11	1966	0.0	11 0	-42 11.0	175 11.0	7596.9	1.6	270
20	11	1966	0.0	1348	-42 11.0	175 5.0	7601.3	7.6	351
20	11	1966	0.0	15 0	-42 2.0	175 3.0	7610.4		

ELTANIN 26 WELLINGTON TO WELLINGTON

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
29	11	1966	0.0	6 0	-41 58.0	174 28.0	0.0	15.7	338
29	11	1966	0.0	1730	-39 10.0	172 59.0	181.1	12.0	0
29	11	1966	0.0	1830	-38 58.0	172 59.0	193.1	6.7	180
29	11	1966	0.0	1915	-39 3.0	172 59.0	198.1	10.6	315
29	11	1966	0.0	21 0	-38 50.0	172 42.0	216.6	0.0	90
29	11	1966	0.0	2115	-38 50.0	172 42.0	216.6	6.8	322
29	11	1966	0.0	22 0	-38 46.0	172 38.0	221.7	3.2	322
30	11	1966	0.0	0 0	-38 41.0	172 33.0	228.0	1.9	123
30	11	1966	0.0	1 0	-38 42.0	172 35.0	229.9	0.9	123
30	11	1966	0.0	3 7	-38 43.0	172 37.0	231.8	0.8	270
30	11	1966	0.0	6 0	-38 43.0	172 34.0	234.1	10.5	132
30	11	1966	0.0	7 0	-38 50.0	172 44.0	244.6	7.5	250
30	11	1966	0.0	23 0	-39 32.0	170 18.0	365.3	7.3	255
1	12	1966	0.0	5 0	-39 43.0	169 23.0	409.1	8.0	253
1	12	1966	0.0	12 0	-39 59.0	168 13.0	465.1	7.7	263
1	12	1966	0.0	13 0	-40 0.0	168 3.0	472.8	3.1	156
1	12	1966	0.0	19 0	-40 17.0	168 13.0	491.5	1.0	14
1	12	1966	0.0	22 0	-40 14.0	168 14.0	494.6	1.8	123
2	12	1966	0.0	0 0	-40 16.0	168 18.0	498.2	0.9	133
2	12	1966	0.0	5 0	-40 19.1	168 22.3	502.7	1.4	134
2	12	1966	0.0	7 0	-40 21.1	168 25.0	505.6	1.7	144
2	12	1966	0.0	1135	-40 27.5	168 31.0	513.5	5.0	270
2	12	1966	0.0	14 0	-40 27.5	168 15.0	525.7	8.6	272
3	12	1966	0.0	5 0	-40 21.9	165 25.8	654.6	8.6	274
3	12	1966	0.0	21 0	-40 13.0	162 26.5	791.7	9.2	276
4	12	1966	0.0	333	-40 6.8	161 7.7	852.2	3.1	279
4	12	1966	0.0	11 6	-40 3.0	160 37.2	875.8	2.2	336
4	12	1966	0.0	1840	-39 48.0	160 28.5	892.3	0.5	29
5	12	1966	0.0	322	-39 44.4	160 31.1	896.4	1.2	121
5	12	1966	0.0	16 0	-39 52.0	160 47.3	911.0	0.4	270
5	12	1966	0.0	1736	-39 52.0	160 46.5	911.6	8.5	340
5	12	1966	0.0	1832	-39 44.5	160 43.0	919.5	0.5	221
6	12	1966	0.0	345	-39 48.0	160 39.0	924.2	8.8	248
6	12	1966	0.0	725	-40 0.0	160 0.0	956.4	8.7	180
6	12	1966	0.0	16 0	-41 15.0	160 0.8	1031.4	8.4	181
6	12	1966	0.0	21 0	-41 57.0	160 0.3	1073.4	15.0	126
6	12	1966	0.0	2114	-41 59.0	160 4.0	1076.8	0.5	48
7	12	1966	0.0	3 0	-41 57.0	160 7.0	1079.8	0.0	62
7	12	1966	0.0	12 0	-41 56.8	160 7.5	1080.3	0.8	73
7	12	1966	0.0	1535	-41 56.0	160 11.0	1083.0	1.5	201
7	12	1966	0.0	2355	-42 7.8	160 4.9	1095.6	1.8	249
8	12	1966	0.0	1 0	-42 8.5	160 2.5	1097.5	2.1	236
8	12	1966	0.0	328	-42 11.4	159 56.6	1102.8	0.9	115
8	12	1966	0.0	11 0	-42 14.1	160 4.5	1109.2	1.6	169
8	12	1966	0.0	18 0	-42 25.4	160 7.5	1120.7	6.7	175
8	12	1966	0.0	2136	-42 49.5	160 10.5	1144.9	7.2	184
9	12	1966	0.0	1 0	-43 14.0	160 8.0	1169.5	6.8	183
9	12	1966	0.0	3 8	-43 28.5	160 7.0	1184.0	0.9	125
9	12	1966	0.0	6 0	-43 30.0	160 10.0	1186.7	7.3	183
9	12	1966	0.0	1812	-44 58.5	160 4.5	1275.3	0.8	202

ELTANIN 26 WELLINGTON TO WELLINGTON

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
9	12	1966	0.0	2237	-45 1.8	160 2.6	1278.8	0.7	149
10	12	1966	0.0	1315	-45 10.0	160 9.7	1288.4	2.2	179
11	12	1966	0.0	445	-45 44.3	160 10.2	1322.7	0.2	222
11	12	1966	0.0	11 0	-45 45.4	160 8.8	1324.2	2.8	192
11	12	1966	0.0	1345	-45 52.9	160 6.5	1331.9	9.8	97
11	12	1966	0.0	14 0	-45 53.2	160 10.0	1334.3	8.4	131
11	12	1966	0.0	1930	-46 23.5	161 0.0	1380.4	1.8	256
11	12	1966	0.0	2040	-46 24.0	160 57.0	1382.5	8.1	130
12	12	1966	0.0	338	-47 0.0	162 0.0	1438.7	2.4	193
12	12	1966	0.0	1835	-47 35.3	161 48.4	1474.9	0.5	152
13	12	1966	0.0	038	-47 38.0	161 50.5	1477.9	0.5	214
13	12	1966	0.0	11 0	-47 42.0	161 46.5	1482.8	1.7	282
13	12	1966	0.0	1225	-47 41.5	161 43.0	1485.2	1.1	281
13	12	1966	0.0	1930	-47 40.0	161 31.5	1493.1	0.6	293
14	12	1966	0.0	140	-47 38.5	161 26.3	1496.9	7.6	69
15	12	1966	0.0	0 0	-46 38.0	165 19.0	1666.3	1.7	189
15	12	1966	0.0	330	-46 43.8	165 17.6	1672.2	4.7	14
15	12	1966	0.0	9 0	-46 18.8	165 26.8	1698.0	3.3	28
15	12	1966	0.0	14 0	-46 4.2	165 37.8	1714.5	4.6	23
15	12	1966	0.0	19 0	-45 43.2	165 50.5	1737.2	5.9	15
15	12	1966	0.0	23 0	-45 20.2	165 59.0	1761.0	0.2	210
16	12	1966	0.0	825	-45 22.0	165 57.5	1763.1	7.8	30
16	12	1966	0.0	18 0	-44 17.0	166 50.0	1838.0	8.8	59
16	12	1966	0.0	23 0	-43 54.5	167 42.8	1882.1	1.6	358
17	12	1966	0.0	114	-43 51.0	167 42.6	1885.6	7.7	41
17	12	1966	0.0	4 0	-43 35.0	168 2.0	1906.9	7.5	40
17	12	1966	0.0	14 0	-42 37.2	169 7.9	1982.1	8.2	39
18	12	1966	0.0	6 0	-40 55.3	170 57.5	2112.7	9.0	39
18	12	1966	0.0	10 0	-40 27.0	171 27.2	2148.9	10.9	82
18	12	1966	0.0	15 0	-40 19.0	172 38.0	2203.4	10.5	97
18	12	1966	0.0	18 0	-40 22.9	173 19.0	2234.9	10.1	109
18	12	1966	0.0	22 0	-40 36.0	174 9.0	2275.1	10.6	145
19	12	1966	0.0	0 0	-40 53.5	174 25.0	2296.4		

ELTANIN 27 WELLINGTON TC MELBOURNE

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
31	12	1966	0.0	0 0	-41 24.9	174 50.0	0.0	7.0	176
31	12	1966	0.0	5 0	-42 0.0	174 53.0	35.2	9.7	176
31	12	1966	0.0	11 0	-42 58.2	174 59.0	93.5	10.7	176
31	12	1966	0.0	20 0	-44 34.2	175 8.0	189.8	8.8	173
1	1	1967	0.0	1 0	-45 18.0	175 16.0	233.9	10.7	177
1	1	1967	0.0	4 0	-45 50.0	175 18.5	266.0	9.2	169
1	1	1967	0.0	5 0	-45 59.0	175 21.0	275.1	10.4	175
1	1	1967	0.0	14 0	-47 32.5	175 32.0	368.9	10.0	177
1	1	1967	0.0	2213	-48 54.7	175 38.7	451.3	10.0	143
2	1	1967	0.0	935	-50 25.0	177 24.5	564.6	7.1	132
2	1	1967	0.0	10 0	-50 27.0	177 28.0	567.6	6.1	85
2	1	1967	0.0	11 0	-50 26.5	177 37.5	573.7	9.2	69
2	1	1967	0.0	12 0	-50 23.2	177 51.0	582.9	8.0	45
2	1	1967	0.0	19 0	-49 43.5	178 52.2	638.7	3.0	4
2	1	1967	0.0	20 0	-49 40.5	178 52.5	641.7	0.7	73
2	1	1967	0.0	2130	-49 40.2	178 54.0	642.8	1.1	83
2	1	1967	0.0	23 0	-49 40.0	178 56.5	644.4	1.7	7
3	1	1967	0.0	030	-49 37.5	178 57.0	646.9	6.3	142
3	1	1967	0.0	1 0	-49 40.0	179 0.0	650.1	2.0	246
3	1	1967	0.0	215	-49 41.0	178 56.5	652.5	0.8	126
3	1	1967	0.0	4 0	-49 41.8	178 58.2	653.9	10.0	182
3	1	1967	0.0	15 0	-51 31.8	178 50.9	764.0	9.0	181
4	1	1967	0.0	0 0	-52 52.5	178 49.0	844.7	8.9	183
4	1	1967	0.0	8 0	-54 4.0	178 43.0	916.3	9.5	185
4	1	1967	0.0	19 0	-55 47.7	178 28.3	1020.3	9.1	182
4	1	1967	0.0	22 0	-56 15.0	178 26.9	1047.7	7.4	175
5	1	1967	0.0	1 0	-56 37.0	178 30.5	1069.7	7.4	184
5	1	1967	0.0	4 0	-56 59.2	178 28.0	1092.0	9.1	185
5	1	1967	0.0	15 0	-58 39.4	178 11.0	1192.6	9.9	183
5	1	1967	0.0	20 0	-59 28.8	178 5.2	1242.1	9.2	169
5	1	1967	0.0	22 0	-59 46.8	178 12.0	1260.4	9.2	185
6	1	1967	0.0	0 0	-60 5.1	178 8.5	1278.8	9.1	184
6	1	1967	0.0	19 0	-62 57.2	177 41.0	1451.4	0.8	184
6	1	1967	0.0	22 0	-62 59.6	177 40.6	1453.8	0.5	156
7	1	1967	0.0	0 0	-63 0.5	177 41.5	1454.8	0.5	60
7	1	1967	0.0	2 0	-63 0.0	177 43.4	1455.8	0.6	221
7	1	1967	0.0	1310	-63 4.9	177 34.0	1462.3	0.6	138
7	1	1967	0.0	16 0	-63 6.2	177 36.6	1464.0	2.6	157
7	1	1967	0.0	2350	-63 25.3	177 54.4	1484.7	9.0	188
8	1	1967	0.0	1 0	-63 35.7	177 51.(	1495.2	9.1	193
8	1	1967	0.0	325	-63 57.2	177 40.(	1517.3	2.9	272
8	1	1967	0.0	5 0	-63 57.0	177 29.5	1521.9	1.6	134
8	1	1967	0.0	640	-63 58.9	177 34.0	1524.6	6.7	180
8	1	1967	0.0	8 0	-64 7.9	177 34.0	1533.6	2.1	192
8	1	1967	0.0	9 0	-64 10.0	177 33.0	1535.8	1.0	175
8	1	1967	0.0	10 0	-64 11.0	177 33.2	1536.8	1.5	156
8	1	1967	0.0	1035	-64 11.8	177 34.0	1537.7	3.2	190
8	1	1967	0.0	13 0	-64 19.5	177 31.0	1545.5	8.8	195
8	1	1967	0.0	15 0	-64 36.5	177 20.5	1563.1	10.2	190
8	1	1967	0.0	17 0	-64 56.6	177 12.4	1583.5	9.3	200

ELTANIN 27 WELLINGTON TO MELBOURNE

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
9	1	1967	0.0	0 0	-65 58.0	176 19.6	1648.7	1.0	227
9	1	1967	0.0	3 0	-66 0.0	176 14.4	1651.6	1.8	168
9	1	1967	0.0	7 0	-66 7.0	176 18.1	1658.7	0.0	90
9	1	1967	0.0	730	-66 7.0	176 18.1	1658.7	6.3	12
9	1	1967	0.0	9 0	-65 57.8	176 23.0	1668.1	0.7	169
9	1	1967	0.0	11 0	-65 59.2	176 23.7	1669.6	0.6	140
9	1	1967	0.0	1538	-66 1.2	176 27.8	1672.2	0.7	207
9	1	1967	0.0	2030	-66 4.2	176 24.0	1675.6	3.6	0
9	1	1967	0.0	21 0	-66 2.4	176 24.0	1677.4	1.2	115
10	1	1967	0.0	1 8	-66 4.5	176 35.0	1682.3	3.6	166
10	1	1967	0.0	2 0	-66 7.5	176 36.8	1685.4	3.3	184
10	1	1967	0.0	725	-66 25.4	176 34.0	1703.3	8.8	206
10	1	1967	0.0	20 0	-68 5.0	174 30.0	1813.8	0.5	34
11	1	1967	0.0	220	-68 2.5	174 34.5	1816.9	0.2	160
11	1	1967	0.0	430	-68 3.0	174 35.0	1817.4	1.0	268
11	1	1967	0.0	1524	-68 3.3	174 5.0	1828.6	1.4	256
11	1	1967	0.0	23 0	-68 6.0	173 36.8	1839.5	8.8	193
12	1	1967	0.0	18 0	-70 49.0	171 49.0	2006.8	2.0	216
12	1	1967	0.0	19 0	-70 50.6	171 45.5	2008.8	0.4	18
12	1	1967	0.0	1915	-70 50.5	171 45.6	2008.9	5.8	174
12	1	1967	0.0	20 0	-70 54.8	171 47.0	2013.2	0.9	7
12	1	1967	0.0	2123	-70 53.5	171 47.5	2014.5	0.2	162
13	1	1967	0.0	0 0	-70 53.9	171 47.9	2014.9	6.9	308
13	1	1967	0.0	010	-70 53.2	171 45.2	2016.1	1.7	97
13	1	1967	0.0	3 0	-70 53.8	171 59.8	2020.9	1.8	270
13	1	1967	0.0	4 0	-70 53.8	171 54.4	2022.6	1.9	126
13	1	1967	0.0	625	-70 56.5	172 5.8	2027.3	2.2	145
13	1	1967	0.0	941	-71 2.3	172 18.5	2034.4	8.9	216
13	1	1967	0.0	11 0	-71 11.8	171 57.2	2046.1	3.2	243
13	1	1967	0.0	1330	-71 15.5	171 35.0	2054.2	3.3	283
13	1	1967	0.0	14 0	-71 17.0	171 33.0	2055.8	2.2	308
13	1	1967	0.0	1450	-71 15.9	171 28.6	2057.6	3.7	221
13	1	1967	0.0	17 0	-71 22.0	171 12.0	2065.7	3.5	182
13	1	1967	0.0	2026	-71 34.0	171 11.0	2077.7	9.0	14
13	1	1967	0.0	21 0	-71 29.0	171 15.0	2082.8	0.7	180
13	1	1967	0.0	23 0	-71 30.4	171 15.0	2084.2	4.9	160
14	1	1967	0.0	0 0	-71 35.0	171 20.2	2089.1	10.1	178
14	1	1967	0.0	3 0	-72 5.4	171 23.2	2119.5	4.9	186
14	1	1967	0.0	4 0	-72 10.3	171 21.5	2124.5	0.5	171
14	1	1967	0.0	425	-72 10.5	171 21.6	2124.7	1.6	347
14	1	1967	0.0	730	-72 5.8	171 18.0	2129.5	10.1	174
14	1	1967	0.0	10 0	-72 31.0	171 26.0	2154.8	1.2	8
14	1	1967	0.0	12 0	-72 28.6	171 27.1	2157.2	1.1	238
14	1	1967	0.0	13 0	-72 29.2	171 23.9	2158.4	3.2	165
14	1	1967	0.0	1345	-72 31.5	171 26.0	2160.7	1.5	151
14	1	1967	0.0	15 0	-72 33.1	171 29.0	2162.6	3.7	151
14	1	1967	0.0	17 0	-72 39.6	171 41.2	2170.0	8.1	336
14	1	1967	0.0	18 0	-72 32.2	171 30.0	2178.2	0.8	99
14	1	1967	0.0	2129	-72 32.6	171 38.8	2180.8	6.9	304
15	1	1967	0.0	118	-72 18.0	170 25.8	2207.3	1.3	189

ELTANIN 27 WELLINGTON TO MELBOURNE

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
15	1	1967	0.0	230	-72 19.5	170 25.0	2208.8	7.8	151
15	1	1967	0.0	8 0	-72 57.3	171 34.3	2251.9	2.5	148
15	1	1967	0.0	1127	-73 4.7	171 50.0	2260.6	7.4	201
15	1	1967	0.0	15 0	-73 29.3	171 17.8	2286.9	1.0	135
15	1	1967	0.0	19 0	-73 32.2	171 28.0	2291.0	2.7	120
15	1	1967	0.0	2142	-73 35.9	171 50.5	2298.3	8.0	219
16	1	1967	0.0	136	-74 0.0	170 40.0	2329.4	1.2	20
16	1	1967	0.0	248	-73 58.6	170 41.8	2330.9	1.7	144
16	1	1967	0.0	327	-73 59.5	170 44.2	2332.0	2.6	151
16	1	1967	0.0	540	-74 4.5	170 54.3	2337.8	8.4	205
16	1	1967	0.0	9 0	-74 30.0	170 10.0	2365.9	3.0	167
16	1	1967	0.0	10 0	-74 32.9	170 12.5	2368.9	2.9	135
16	1	1967	0.0	12 0	-74 37.0	170 28.0	2374.7	1.7	159
16	1	1967	0.0	1227	-74 37.7	170 29.0	2375.5	0.5	268
16	1	1967	0.0	18 0	-74 37.8	170 15.5	2378.3	2.7	104
16	1	1967	0.0	21 0	-74 39.7	170 48.0	2386.3	7.9	284
16	1	1967	0.0	22 0	-74 37.8	170 19.0	2394.2	5.4	203
16	1	1967	0.0	23 0	-74 42.8	170 11.0	2399.6	8.9	216
17	1	1967	0.0	0 0	-74 50.0	169 51.0	2408.6	8.0	209
17	1	1967	0.0	126	-75 0.0	169 30.0	2419.9	0.7	270
17	1	1967	0.0	222	-75 0.0	169 27.5	2420.6	1.1	282
17	1	1967	0.0	313	-74 59.8	169 24.0	2421.5	0.9	337
17	1	1967	0.0	335	-74 59.5	169 23.5	2421.8	4.0	280
17	1	1967	0.0	5 0	-74 58.5	169 2.0	2427.5	3.1	222
17	1	1967	0.0	6 0	-75 0.8	168 54.0	2430.6	8.2	181
17	1	1967	0.0	9 0	-75 25.4	168 52.0	2455.2	0.5	194
17	1	1967	0.0	13 0	-75 27.2	168 50.2	2457.1	1.5	105
17	1	1967	0.0	15 0	-75 28.0	169 2.0	2460.1	5.2	113
17	1	1967	0.0	16 0	-75 30.0	169 21.0	2465.3	2.5	169
17	1	1967	0.0	17 0	-75 32.5	169 23.0	2467.8	9.1	207
17	1	1967	0.0	21 0	-76 5.0	168 16.0	2504.3	2.8	177
17	1	1967	0.0	23 0	-76 10.5	168 17.4	2509.8	0.4	0
17	1	1967	0.0	2330	-76 10.3	168 17.4	2510.0	0.1	173
18	1	1967	0.0	1 0	-76 10.5	168 17.5	2510.2	2.3	311
18	1	1967	0.0	2 0	-76 9.0	168 10.4	2512.4	2.1	0
18	1	1967	0.0	229	-76 8.0	168 10.4	2513.4	7.6	360
18	1	1967	0.0	3 0	-76 4.0	168 10.3	2517.4	9.3	16
18	1	1967	0.0	327	-76 0.0	168 15.0	2521.6	1.8	0
18	1	1967	0.0	4 0	-75 59.0	168 15.0	2522.6	4.4	19
18	1	1967	0.0	6 0	-75 50.6	168 27.0	2531.5	8.8	21
18	1	1967	0.0	11 0	-75 9.5	169 30.5	2575.6	10.3	25
18	1	1967	0.0	14 0	-74 41.5	170 20.0	2606.4	9.2	6
18	1	1967	0.0	15 0	-74 32.3	170 23.4	2615.6	2.2	183
18	1	1967	0.0	16 0	-74 34.5	170 23.0	2617.8	4.1	149
18	1	1967	0.0	17 0	-74 38.0	170 31.0	2621.9	9.0	130
19	1	1967	0.0	0 0	-75 18.5	173 36.0	2684.7	9.5	121
19	1	1967	0.0	828	-76 0.0	178 15.0	2765.3	0.7	144
19	1	1967	0.0	11 0	-76 1.5	178 19.5	2767.2	0.5	125
19	1	1967	0.0	1248	-76 2.0	178 22.5	2768.1	1.3	162
19	1	1967	0.0	14 0	-76 3.5	178 24.5	2769.6	5.8	102

ELTANIN 27 WELLINGTON TO MELBOURNE

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
19	1	1967	0.0	1525	-76 5.2	178 58.0	2777.9	9.2	250
19	1	1967	0.0	21 0	-76 23.1	175 36.5	2829.0	9.9	240
19	1	1967	0.0	22 0	-76 28.0	175 0.0	2838.9	0.8	268
20	1	1967	0.0	128	-76 30.4	174 54.5	2841.6	3.1	160
20	1	1967	0.0	421	-76 38.9	175 7.5	2850.7	9.3	278
20	1	1967	0.0	11 0	-76 30.0	170 43.0	2912.7	0.9	321
20	1	1967	0.0	1225	-76 29.0	170 39.5	2914.0	2.8	106
20	1	1967	0.0	14 0	-76 30.2	170 57.5	2918.4	2.9	68
20	1	1967	0.0	16 0	-76 30.0	171 22.5	2924.2	10.1	270
20	1	1967	0.0	20 0	-76 29.9	168 30.0	2964.5	5.8	269
20	1	1967	0.0	21 0	-76 30.0	168 5.0	2970.3	1.1	299
21	1	1967	0.0	018	-76 29.3	167 51.8	2973.8	2.8	100
21	1	1967	0.0	4 0	-76 30.0	168 35.0	2984.1	0.0	90
21	1	1967	0.0	715	-76 30.0	168 35.0	2984.1	9.1	223
21	1	1967	0.0	12 0	-77 1.5	166 27.0	3027.1	1.9	232
21	1	1967	0.0	14 0	-77 3.8	166 14.0	3030.8	3.4	201
21	1	1967	0.0	15 0	-77 7.0	166 8.5	3034.2	3.4	287
21	1	1967	0.0	16 0	-77 6.0	165 54.0	3037.6	4.6	344
21	1	1967	0.0	17 0	-77 1.6	165 48.5	3042.2	7.0	311
21	1	1967	0.0	18 0	-76 57.0	165 25.0	3049.2	8.7	176
21	1	1967	0.0	20 0	-77 14.3	165 31.0	3066.6	10.0	186
21	1	1967	0.0	22 0	-77 34.2	165 21.5	3086.6	6.8	133
22	1	1967	0.0	0 0	-77 43.4	166 7.8	3100.1	3.3	151
22	1	1967	0.0	135	-77 48.0	166 20.0	3105.4	0.0	90
23	1	1967	0.0	120	-77 48.0	166 20.0	3105.4	2.3	109
23	1	1967	0.0	2 0	-77 48.5	166 27.0	3106.9	9.4	323
23	1	1967	0.0	3 0	-77 41.0	166 0.0	3116.4	10.1	353
23	1	1967	0.0	4 0	-77 31.0	165 54.5	3126.4	9.5	10
23	1	1967	0.0	6 0	-77 12.3	166 9.5	3145.4	6.7	45
23	1	1967	0.0	7 0	-77 7.6	166 31.0	3152.1	8.6	100
23	1	1967	0.0	11 0	-77 13.5	169 4.3	3186.7	0.1	154
23	1	1967	0.0	15 0	-77 14.0	169 5.4	3187.2	2.1	80
23	1	1967	0.0	19 0	-77 12.6	169 42.2	3195.5	7.4	99
24	1	1967	0.0	0 8	-77 18.8	172 32.5	3233.5	0.5	140
24	1	1967	0.0	5 0	-77 20.5	172 39.0	3235.7	1.4	129
24	1	1967	0.0	7 0	-77 22.3	172 49.0	3238.6	2.4	105
24	1	1967	0.0	922	-77 23.8	173 14.5	3244.3	0.8	39
24	1	1967	0.0	950	-77 23.5	173 15.6	3244.7	9.6	107
24	1	1967	0.0	11 0	-77 26.7	174 5.0	3256.0	8.4	136
24	1	1967	0.0	12 0	-77 32.8	174 32.0	3264.4	7.1	40
24	1	1967	0.0	13 0	-77 27.4	174 53.0	3271.5	6.5	201
24	1	1967	0.0	14 0	-77 33.5	174 42.2	3278.0	2.1	108
24	1	1967	0.0	18 0	-77 36.1	175 19.0	3286.3	0.9	154
24	1	1967	0.0	21 0	-77 38.4	175 24.2	3288.9	1.3	85
24	1	1967	0.0	2238	-77 38.2	175 34.0	3291.0	10.0	109
25	1	1967	0.0	1 0	-77 46.0	177 19.0	3314.7	0.5	166
25	1	1967	0.0	5 0	-77 48.0	177 21.0	3316.7	1.4	112
25	1	1967	0.0	6 0	-77 48.5	177 27.0	3318.1	1.5	149
25	1	1967	0.0	8 0	-77 51.0	177 34.0	3321.0	2.2	132
25	1	1967	0.0	1233	-77 57.5	178 9.0	3330.8	8.5	344

ELTANIN 27 WELLINGTON TO MELBOURNE

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
25	1	1967	0.0	13 0	-77 53.8	178 4.0	3334.6	7.8	14
25	1	1967	0.0	15 0	-77 38.6	178 22.0	3350.3	10.1	15
26	1	1967	0.0	0 0	-76 10.5	-179 56.0	3441.4	9.8	18
26	1	1967	0.0	1 0	-76 1.2	-179 43.5	3451.1	9.3	26
26	1	1967	0.0	430	-75 31.9	-178 45.0	3483.8	0.6	72
26	1	1967	0.0	5 0	-75 31.8	-178 43.8	3484.1	3.0	98
26	1	1967	0.0	723	-75 32.8	-178 15.5	3491.2	2.9	102
26	1	1967	0.0	822	-75 33.4	-178 4.5	3494.0	8.1	50
26	1	1967	0.0	13 0	-75 9.1	-176 11.0	3531.6	1.2	213
26	1	1967	0.0	14 0	-75 10.1	-176 13.5	3532.8	2.0	135
26	1	1967	0.0	15 0	-75 11.5	-176 8.0	3534.8	2.8	48
26	1	1967	0.0	17 0	-75 7.8	-175 52.0	3540.3	8.1	36
26	1	1967	0.0	19 0	-74 54.8	-175 15.0	3556.5	2.6	71
26	1	1967	0.0	2229	-74 51.9	-174 41.9	3565.6	0.5	59
27	1	1967	0.0	618	-74 50.0	-174 30.0	3569.2	3.3	100
27	1	1967	0.0	825	-74 51.2	-174 4.0	3576.1	7.8	247
27	1	1967	0.0	13 0	-75 5.2	-176 10.0	3611.7	9.6	49
27	1	1967	0.0	15 0	-74 52.7	-175 14.0	3630.8	1.3	68
27	1	1967	0.0	1925	-74 50.5	-174 53.5	3636.6	0.9	25
27	1	1967	0.0	2225	-74 48.0	-174 49.0	3639.4	7.9	310
28	1	1967	0.0	027	-74 37.7	-175 36.0	3655.5	1.5	107
28	1	1967	0.0	330	-74 39.0	-175 20.0	3659.9	0.3	325
28	1	1967	0.0	535	-74 38.5	-175 21.3	3660.5	7.2	313
28	1	1967	0.0	932	-74 19.0	-176 39.0	3689.0	2.2	134
28	1	1967	0.0	1024	-74 20.3	-176 34.0	3690.9	10.3	305
28	1	1967	0.0	15 0	-73 53.0	-178 54.5	3738.1	1.2	143
28	1	1967	0.0	2034	-73 58.4	-178 40.0	3744.8	9.0	308
29	1	1967	0.0	5 0	-73 11.4	177 48.8	3820.8	6.4	358
29	1	1967	0.0	6 0	-73 5.0	177 48.0	3827.2	6.4	88
29	1	1967	0.0	7 0	-73 4.8	178 10.0	3833.6	5.6	323
29	1	1967	0.0	8 0	-73 0.3	177 58.5	3839.2	6.9	245
29	1	1967	0.0	10 0	-73 6.0	177 15.7	3852.9	6.2	183
29	1	1967	0.0	11 0	-73 12.2	177 14.4	3859.1	8.8	126
29	1	1967	0.0	12 0	-73 17.4	177 39.2	3868.0	4.7	189
29	1	1967	0.0	13 0	-73 22.0	177 36.8	3872.6	3.0	89
29	1	1967	0.0	16 0	-73 21.8	178 8.0	3881.6	7.9	5
29	1	1967	0.0	20 0	-72 50.5	178 18.0	3913.0	6.6	101
29	1	1967	0.0	21 0	-72 51.8	178 40.0	3919.6	2.5	81
29	1	1967	0.0	22 0	-72 51.4	178 48.5	3922.1	1.8	74
30	1	1967	0.0	0 0	-72 50.4	179 0.0	3925.7	0.1	164
30	1	1967	0.0	4 0	-72 50.9	179 0.5	3926.2	9.3	349
30	1	1967	0.0	9 0	-72 5.2	178 31.0	3972.8	5.2	357
30	1	1967	0.0	10 0	-72 0.0	178 30.0	3978.0	0.8	256
30	1	1967	0.0	11 0	-72 0.2	178 27.5	3978.8	0.7	55
30	1	1967	0.0	14 0	-71 59.0	178 33.0	3980.8	1.1	22
30	1	1967	0.0	17 0	-71 56.0	178 37.0	3984.1	2.1	34
30	1	1967	0.0	1826	-71 53.5	178 42.5	3987.1	2.7	52
30	1	1967	0.0	2033	-71 50.0	178 57.0	3992.8	6.9	4
30	1	1967	0.0	22 0	-71 49.0	178 59.0	4002.9	8.6	6
31	1	1967	0.0	11 0	-69 48.2	179 35.0	4115.3	8.9	10

ELTANIN 27 WELLINGTON TO MELBOURNE

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
31	1	1967	0.0	1630	-69 0.0	180 0.0	4164.3	0.4	90
31	1	1967	0.0	20 0	-69 0.0	-179 56.0	4165.7	0.5	133
1	2	1967	0.0	2 0	-69 2.0	-179 50.0	4168.6	0.6	107
1	2	1967	0.0	723	-69 3.0	-179 41.0	4172.0	2.6	94
1	2	1967	0.0	10 0	-69 3.5	-179 22.0	4178.8	1.1	173
1	2	1967	0.0	11 0	-69 4.6	-179 21.6	4179.9	7.7	296
1	2	1967	0.0	13 0	-68 57.8	-180 0.0	4195.3	10.0	1
1	2	1967	0.0	20 0	-67 47.6	-179 55.5	4265.5	9.8	12
1	2	1967	0.0	21 0	-67 38.0	-179 58.0	4275.3	8.7	358
1	2	1967	0.0	22 0	-67 29.3	-179 58.6	4284.0	5.3	336
1	2	1967	0.0	23 0	-67 24.5	-179 56.2	4289.3	1.2	66
2	2	1967	0.0	0 0	-67 24.0	-179 58.3	4290.5	0.3	90
2	2	1967	0.0	1 0	-67 24.0	-179 52.6	4290.8	1.0	230
2	2	1967	0.0	3 0	-67 25.3	-179 56.6	4292.8	3.0	207
2	2	1967	0.0	5 0	-67 30.6	179 56.5	4298.7	3.6	19
2	2	1967	0.0	7 0	-67 23.8	-179 57.5	4305.9	1.4	158
2	2	1967	0.0	8 0	-67 25.1	-179 56.1	4307.3	3.8	168
2	2	1967	0.0	11 0	-67 36.2	-179 50.0	4318.6	3.3	328
2	2	1967	0.0	1230	-67 32.0	-179 57.0	4323.6	4.0	285
2	2	1967	0.0	13 0	-67 31.5	179 58.0	4325.6	1.8	339
2	2	1967	0.0	14 0	-67 29.8	179 56.3	4327.4	3.6	282
2	2	1967	0.0	17 0	-67 27.5	179 28.8	4338.2	1.7	164
2	2	1967	0.0	20 0	-67 32.3	179 32.5	4343.2	3.6	152
2	2	1967	0.0	21 0	-67 35.5	179 37.0	4346.8	9.9	63
2	2	1967	0.0	22 0	-67 31.0	180 0.0	4356.7	9.6	278
3	2	1967	0.0	5 0	-67 22.0	177 6.0	4424.0	7.8	276
3	2	1967	0.0	9 0	-67 18.8	175 45.5	4455.2	9.2	282
3	2	1967	0.0	15 0	-67 7.5	173 26.0	4510.4	10.5	277
3	2	1967	0.0	18 0	-67 3.5	172 6.0	4541.8	9.2	278
4	2	1967	0.0	1 0	-66 54.5	169 23.0	4606.2	9.9	275
4	2	1967	0.0	6 0	-66 50.6	167 17.2	4655.7	9.3	269
4	2	1967	0.0	13 0	-66 52.0	164 32.0	4720.7	1.7	322
4	2	1967	0.0	16 0	-66 48.0	164 24.0	4725.8	6.7	334
4	2	1967	0.0	19 0	-66 30.0	164 2.0	4745.8	10.9	197
4	2	1967	0.0	22 0	-67 1.2	163 38.0	4778.4	1.4	78
4	2	1967	0.0	23 0	-67 0.9	163 41.5	4779.8	8.1	255
5	2	1967	0.0	0 0	-67 3.0	163 21.5	4787.8	10.8	331
5	2	1967	0.0	1 0	-66 53.6	163 8.0	4798.6	1.2	272
5	2	1967	0.0	3 0	-66 53.5	163 2.0	4801.0	10.2	336
5	2	1967	0.0	429	-66 39.5	162 48.0	4816.0	1.3	0
5	2	1967	0.0	452	-66 39.0	162 48.0	4816.5	4.1	25
5	2	1967	0.0	628	-66 33.0	162 55.0	4823.1	5.0	25
5	2	1967	0.0	820	-66 24.6	163 5.0	4832.4	2.6	327
5	2	1967	0.0	12 0	-66 16.5	162 52.0	4842.1	8.7	332
5	2	1967	0.0	20 0	-65 15.0	161 32.5	4911.7	9.3	318
5	2	1967	0.0	22 0	-65 1.2	161 2.6	4930.4	4.7	318
6	2	1967	0.0	2221	-65 0.0	161 0.0	4932.0	0.6	270
6	2	1967	0.0	1 0	-65 0.0	160 56.0	4933.7	1.6	52
6	2	1967	0.0	2 0	-64 59.0	160 59.0	4935.3	3.9	239
6	2	1967	0.0	3 0	-65 1.0	160 51.0	4939.2	1.1	297

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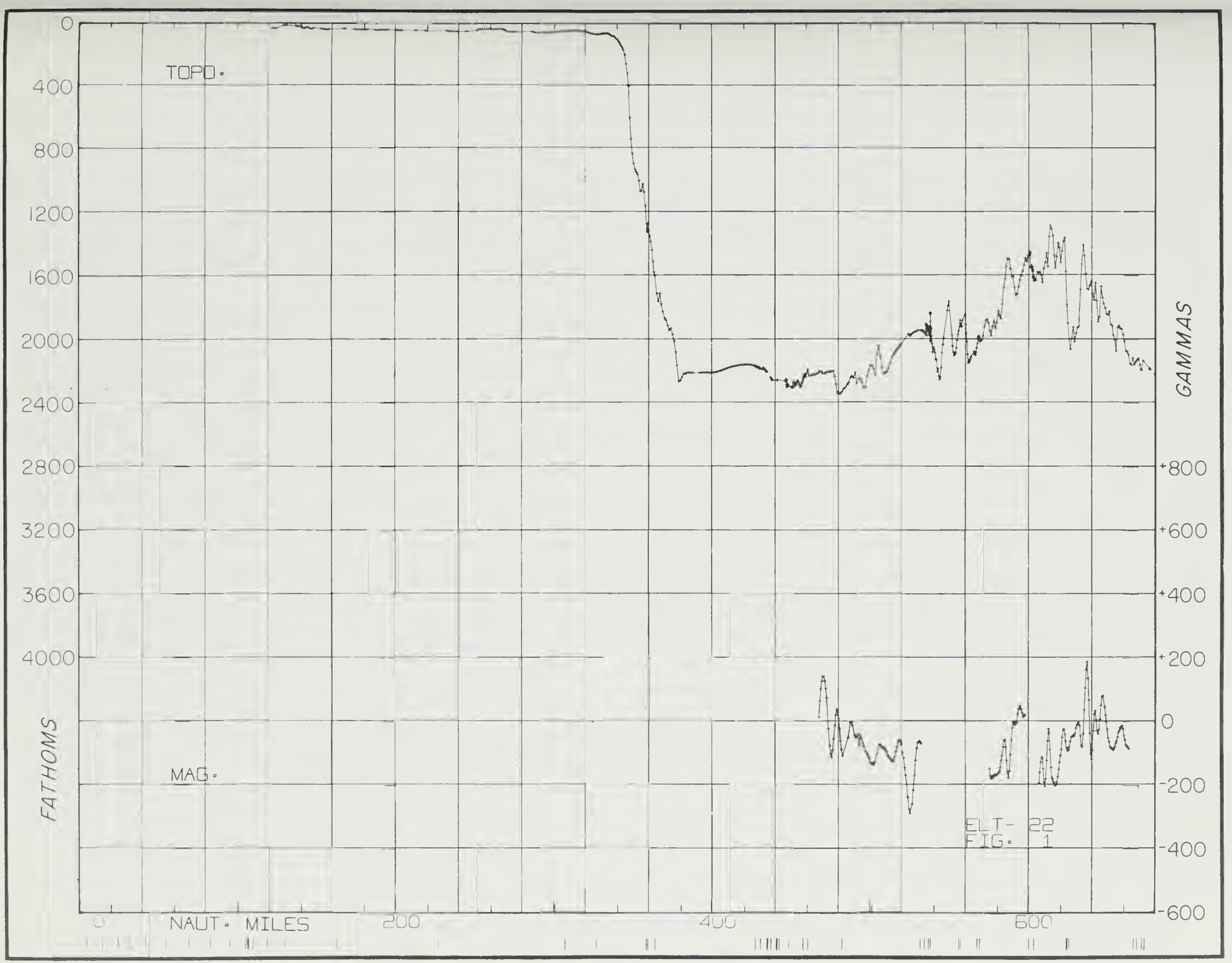
DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
6	2	1967	0.0	6 0	-64 59.5	160 44.0	4942.5	0.4	302
6	2	1967	0.0	12 0	-64 58.2	160 39.0	4945.0	0.2	270
6	2	1967	0.0	16 0	-64 58.2	160 36.7	4946.0	0.1	203
6	2	1967	0.0	1740	-64 58.3	160 36.6	4946.1	1.9	139
6	2	1967	0.0	2025	-65 2.2	160 44.5	4951.2	3.1	163
6	2	1967	0.0	23 0	-65 10.0	160 50.0	4959.4	2.9	193
7	2	1967	0.0	3 0	-65 21.2	160 43.6	4970.9	10.3	20
7	2	1967	0.0	5 0	-65 1.8	161 0.3	4991.5	9.4	333
7	2	1967	0.0	12 0	-64 3.0	159 50.0	5057.6	9.9	330
7	2	1967	0.0	21 0	-62 45.7	158 10.2	5146.9	6.1	337
7	2	1967	0.0	22 0	-62 40.1	158 5.0	5153.0	0.3	116
8	2	1967	0.0	4 0	-62 40.9	158 8.5	5154.8	2.7	169
8	2	1967	0.0	621	-62 47.2	158 11.2	5161.2	2.5	126
8	2	1967	0.0	835	-62 50.4	158 21.0	5166.7	1.7	106
8	2	1967	0.0	9 0	-62 50.6	158 22.5	5167.4	3.1	89
8	2	1967	0.0	1235	-62 50.4	158 47.0	5178.6	8.1	292
8	2	1967	0.0	15 0	-62 43.1	158 7.0	5198.3	9.9	335
9	2	1967	0.0	4 0	-60 46.3	156 10.9	5327.4	9.3	339
9	2	1967	0.0	9 0	-60 2.8	155 36.5	5374.1	2.7	326
9	2	1967	0.0	10 0	-60 0.6	155 33.5	5376.7	0.4	328
9	2	1967	0.0	1532	-59 58.6	155 31.0	5379.1	1.8	316
9	2	1967	0.0	19 0	-59 54.0	155 22.1	5385.5	3.3	8
9	2	1967	0.0	2130	-59 45.8	155 24.5	5393.8	2.6	344
10	2	1967	0.0	2 0	-59 34.4	155 18.0	5405.7	0.6	209
10	2	1967	0.0	11 0	-59 38.9	155 13.0	5410.8	1.4	297
10	2	1967	0.0	14 0	-59 37.0	155 5.7	5415.0	0.3	207
10	2	1967	0.0	16 0	-59 37.5	155 5.2	5415.5	9.2	102
10	2	1967	0.0	19 0	-59 43.4	155 58.4	5443.0	8.9	36
11	2	1967	0.0	1 0	-59 0.0	157 0.0	5496.6	0.9	165
11	2	1967	0.0	720	-59 5.7	157 3.0	5502.5	4.8	318
11	2	1967	0.0	9 0	-58 59.8	156 52.5	5510.5	8.4	304
11	2	1967	0.0	2220	-57 56.5	153 56.0	5622.4	0.2	144
12	2	1967	0.0	5 0	-57 57.8	153 57.8	5624.0	0.4	357
12	2	1967	0.0	13 0	-57 55.0	153 57.5	5626.8	1.5	177
12	2	1967	0.0	16 0	-57 59.5	153 58.0	5631.3	3.2	127
12	2	1967	0.0	2121	-58 9.7	154 24.0	5648.5	2.6	124
13	2	1967	0.0	0 0	-58 13.6	154 35.0	5655.5	1.6	69
13	2	1967	0.0	1 0	-58 13.0	154 37.9	5657.1	9.1	325
13	2	1967	0.0	5 0	-57 43.0	153 59.0	5693.5	9.2	328
13	2	1967	0.0	8 0	-57 19.4	153 32.0	5721.2	8.9	335
13	2	1967	0.0	1025	-57 0.0	153 15.0	5742.7	0.3	234
13	2	1967	0.0	1431	-57 0.8	153 13.0	5744.0	10.3	69
14	2	1967	0.0	1 0	-56 22.5	156 17.7	5852.4	11.3	62
14	2	1967	0.0	14 0	-55 13.0	160 8.0	5999.4	8.8	345
14	2	1967	0.0	16 0	-54 56.0	160 0.0	6017.0	8.0	310
14	2	1967	0.0	19 0	-54 40.6	159 28.0	6041.0	6.8	302
14	2	1967	0.0	22 0	-54 29.7	158 58.4	6061.3	0.0	90
15	2	1967	0.0	4 0	-54 29.7	158 58.4	6061.3	1.3	165
15	2	1967	0.0	5 0	-54 31.0	158 59.0	6062.7	7.2	349
15	2	1967	0.0	513	-54 29.5	158 58.5	6064.2	2.6	150

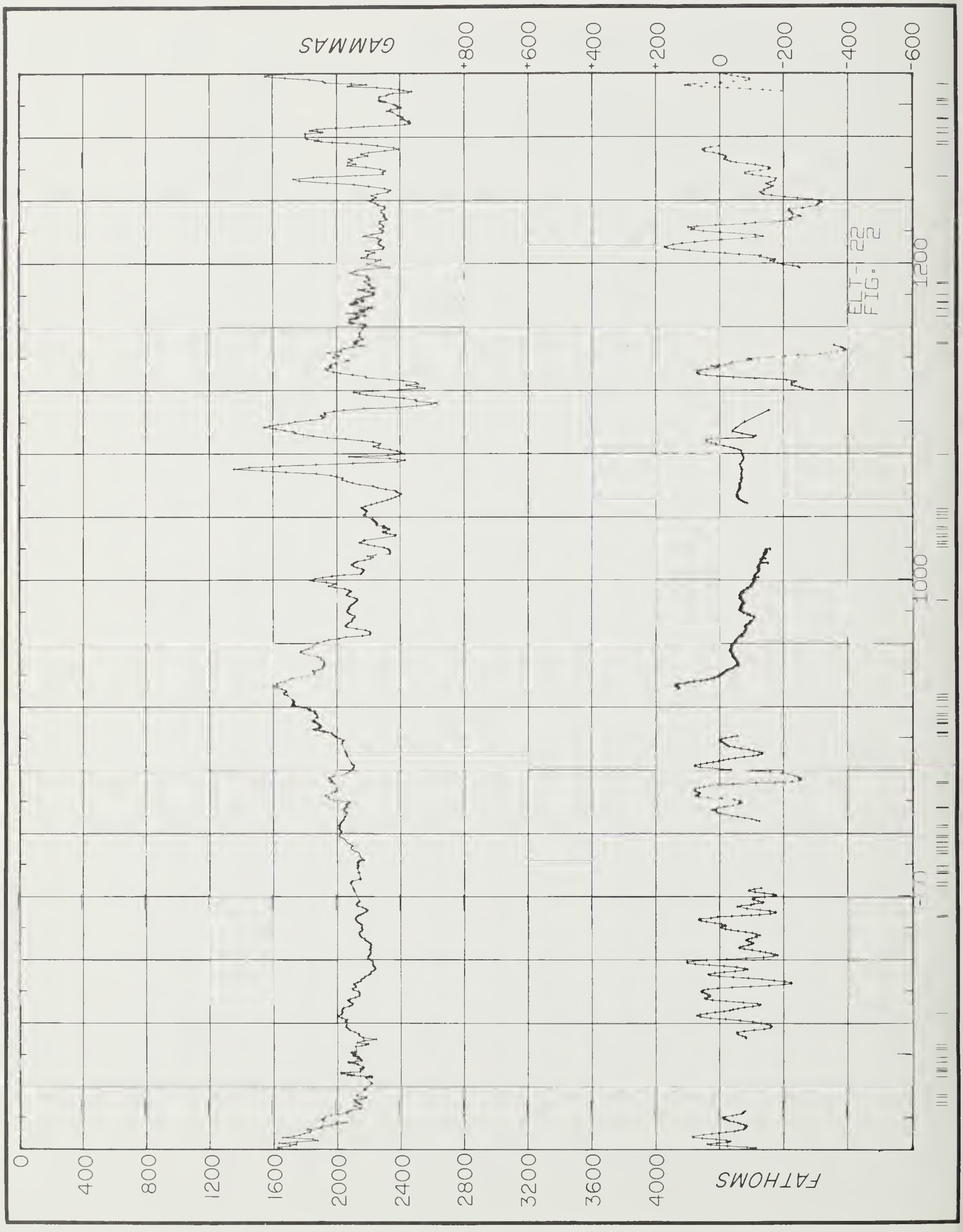
ELTANIN 27 WELLINGTON TO MELBOURNE

DAY	MON	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
15	2	1967	0.0	526	-54 30.0	158 59.0	6064.9	7.0	180
15	2	1967	0.0	6 0	-54 34.0	158 59.0	6068.8	4.0	0
15	2	1967	0.0	7 0	-54 30.0	158 59.0	6072.8	0.4	49
15	2	1967	0.0	9 0	-54 29.5	159 0.0	6073.5	2.0	0
15	2	1967	0.0	10 0	-54 27.5	159 0.0	6075.5	6.1	267
15	2	1967	0.0	11 0	-54 27.8	158 49.6	6081.6	8.6	245
15	2	1967	0.0	16 0	-54 46.0	157 42.1	6124.7	5.0	242
15	2	1967	0.0	21 0	-54 57.8	157 4.2	6149.5	3.1	236
16	2	1967	0.0	1 0	-55 4.8	156 46.0	6162.1	4.3	247
16	2	1967	0.0	6 0	-55 13.3	156 11.0	6183.8	6.5	242
16	2	1967	0.0	13 0	-55 35.0	155 0.0	6229.6	8.0	251
16	2	1967	0.0	15 0	-55 40.2	154 33.2	6245.6	6.8	250
16	2	1967	0.0	22 0	-55 56.6	153 13.9	6293.1	6.4	263
17	2	1967	0.0	140	-55 59.5	152 32.0	6316.7	1.1	255
17	2	1967	0.0	14 0	-56 3.0	152 8.0	6330.6	1.7	179
17	2	1967	0.0	1821	-56 10.2	152 8.3	6337.8	0.4	141
18	2	1967	0.0	0 0	-56 11.9	152 10.8	6340.0	1.6	45
18	2	1967	0.0	1 0	-56 10.8	152 12.8	6341.5	8.9	24
18	2	1967	0.0	3 0	-55 54.5	152 25.5	6359.3	9.2	346
18	2	1967	0.0	9 0	-55 1.2	152 1.2	6414.4	1.4	105
18	2	1967	0.0	1515	-55 3.4	152 16.0	6423.1	8.5	336
18	2	1967	0.0	19 0	-54 34.5	151 53.4	6454.8	8.2	327
19	2	1967	0.0	0 0	-54 0.0	151 15.2	6495.9	1.8	237
19	2	1967	0.0	1 0	-54 1.0	151 12.6	6497.7	0.3	220
19	2	1967	0.0	15 0	-54 4.2	151 8.0	6501.9	3.4	206
19	2	1967	0.0	2346	-54 30.8	150 46.0	6531.4	7.5	41
20	2	1967	0.0	2 0	-54 18.1	151 5.0	6548.3	9.7	20
20	2	1967	0.0	4 0	-54 0.0	151 16.5	6567.6	7.5	342
20	2	1967	0.0	10 0	-53 16.9	150 53.0	6612.9	7.2	330
20	2	1967	0.0	1244	-53 0.0	150 36.5	6632.5	0.6	348
20	2	1967	0.0	16 0	-52 58.0	150 35.8	6634.5	9.0	349
20	2	1967	0.0	23 0	-51 56.5	150 15.5	6697.2	0.7	46
21	2	1967	0.0	1232	-51 49.8	150 26.8	6706.9	1.5	196
21	2	1967	0.0	1835	-51 58.3	150 22.9	6715.8	2.1	261
21	2	1967	0.0	2040	-51 59.0	150 16.0	6720.1	9.6	341
22	2	1967	0.0	4 0	-50 52.8	149 38.5	6790.3	8.6	339
22	2	1967	0.0	1030	-50 0.6	149 6.6	6846.3	0.3	55
22	2	1967	0.0	15 0	-49 59.8	149 8.4	6847.7	8.0	343
22	2	1967	0.0	17 0	-49 44.5	149 1.0	6863.7	6.6	350
22	2	1967	0.0	22 0	-49 12.0	148 52.2	6895.7	8.3	346
23	2	1967	0.0	0 0	-48 55.9	148 46.0	6913.3	8.4	338
23	2	1967	0.0	6 0	-48 9.2	148 17.2	6963.8	0.8	241
23	2	1967	0.0	8 0	-48 10.0	148 15.0	6965.4	1.3	245
23	2	1967	0.0	12 0	-48 12.2	148 8.0	6970.6	8.9	347
23	2	1967	0.0	18 0	-47 20.0	147 50.0	7024.2	2.1	161
23	2	1967	0.0	19 0	-47 22.0	147 51.0	7026.3	0.5	45
23	2	1967	0.0	22 0	-47 21.0	147 52.5	7027.7	2.0	346
23	2	1967	0.0	2332	-47 18.1	147 51.4	7030.7	2.9	327
24	2	1967	0.0	2 0	-47 12.0	147 45.6	7038.0	0.8	6
24	2	1967	0.0	5 0	-47 9.6	147 46.0	7040.4	7.2	165

ELTANIN 27 WELLINGTON TO MELBOURNE

DAY	MO.	YEAR	TZ	TIME	LATITUDE	LONGITUDE	DISTANCE	SPEED	COURSE
24	2	1967	0.0	630	-47 20.0	147 50.0	7051.1	9.0	351
24	2	1967	0.0	22 0	-45 1.6	147 17.0	7191.4	2.5	0
24	2	1967	0.0	2238	-45 0.0	147 17.0	7193.0	3.3	145
24	2	1967	0.0	23 0	-45 1.0	147 18.0	7194.2	0.6	273
25	2	1967	0.0	2 0	-45 0.9	147 15.4	7196.1	0.9	199
25	2	1967	0.0	8 0	-45 6.1	147 12.8	7201.6	4.2	227
25	2	1967	0.0	9 0	-45 9.0	147 8.4	7205.8	6.7	100
25	2	1967	0.0	1030	-45 10.7	147 22.4	7215.8	0.6	161
25	2	1967	0.0	1630	-45 14.2	147 22.3	7219.3	3.3	188
25	2	1967	0.0	2230	-45 33.6	147 18.2	7239.0	2.2	294
26	2	1967	0.0	2 0	-45 30.4	147 8.0	7246.8	1.0	156
26	2	1967	0.0	527	-45 33.6	147 10.0	7250.3	9.1	325
26	2	1967	0.0	17 0	-44 7.0	145 45.0	7355.8	10.1	327
27	2	1967	0.0	1 0	-42 59.0	144 43.9	7436.9	10.2	331
27	2	1967	0.0	15 0	-40 53.9	143 10.7	7580.0	9.4	28
27	2	1967	0.0	20 0	-40 12.4	143 39.8	7627.0	8.7	5
27	2	1967	0.0	23 0	-39 46.5	143 42.6	7653.0	9.7	11
28	2	1967	0.0	0 0	-39 37.0	143 45.0	7662.6	7.1	57
28	2	1967	0.0	2 0	-39 29.2	144 0.5	7676.9	1.1	309
28	2	1967	0.0	5 0	-39 27.2	143 57.3	7680.1	5.6	271
28	2	1967	0.0	6 0	-39 27.1	143 50.0	7685.7	1.7	90
28	2	1967	0.0	7 0	-39 27.1	143 52.2	7687.4	1.6	279
28	2	1967	0.0	812	-39 26.8	143 49.7	7689.4		


0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
TOPO.
MAG.
+800
+600
+400
+200
0
-200
-400
-600
GAMMAS
0
NAUT. MILES
200
400
600
ELT- 22
FIG. 1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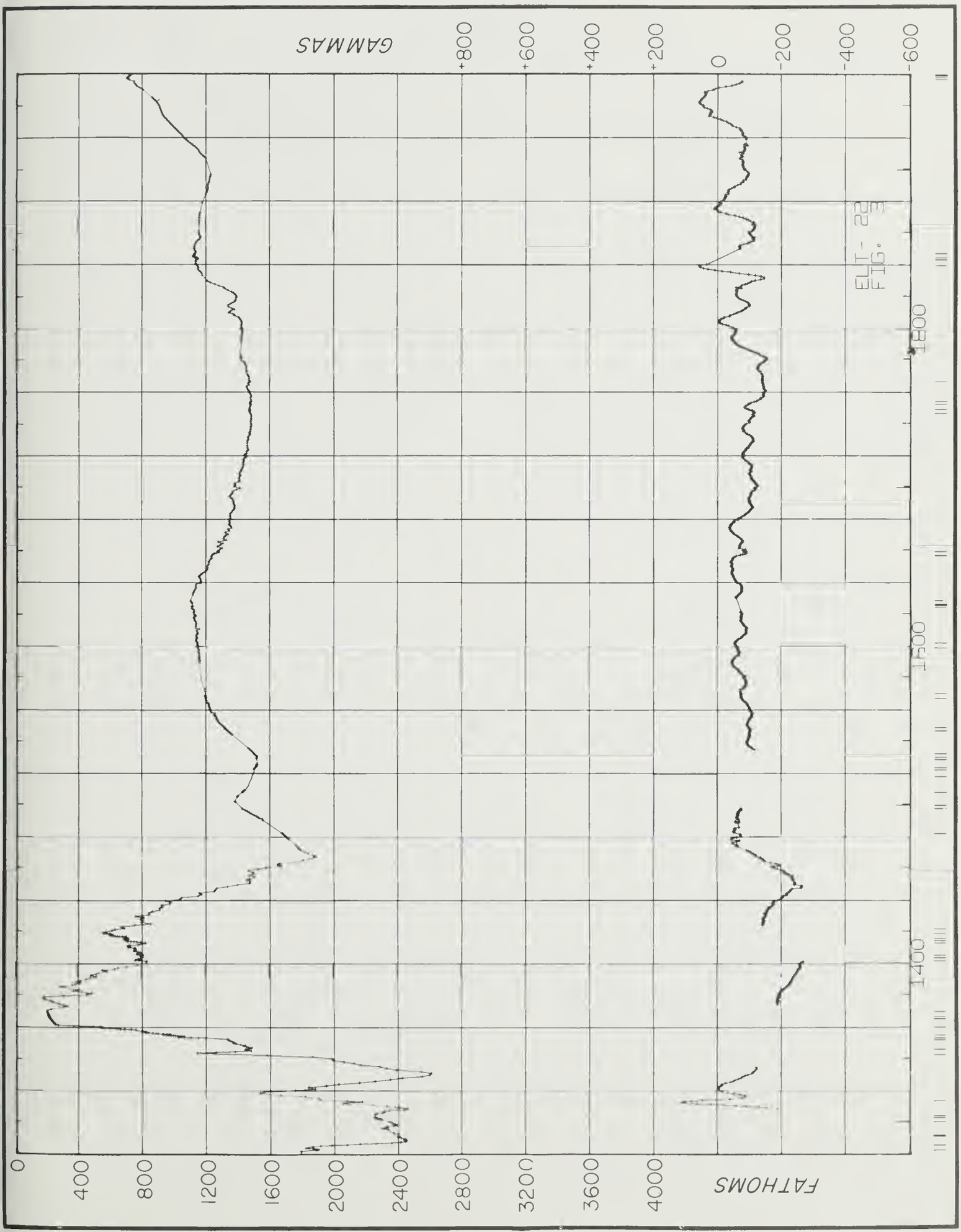
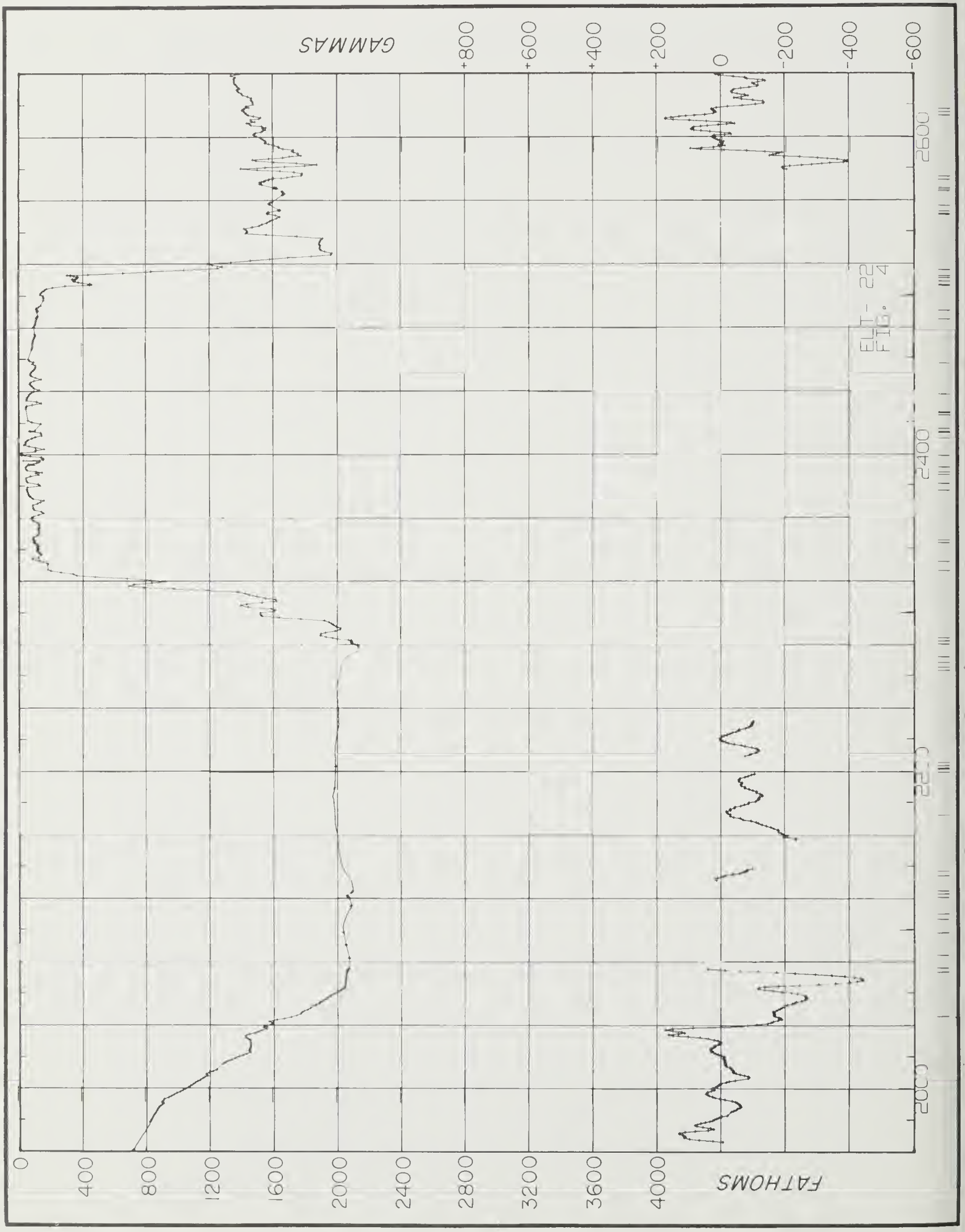
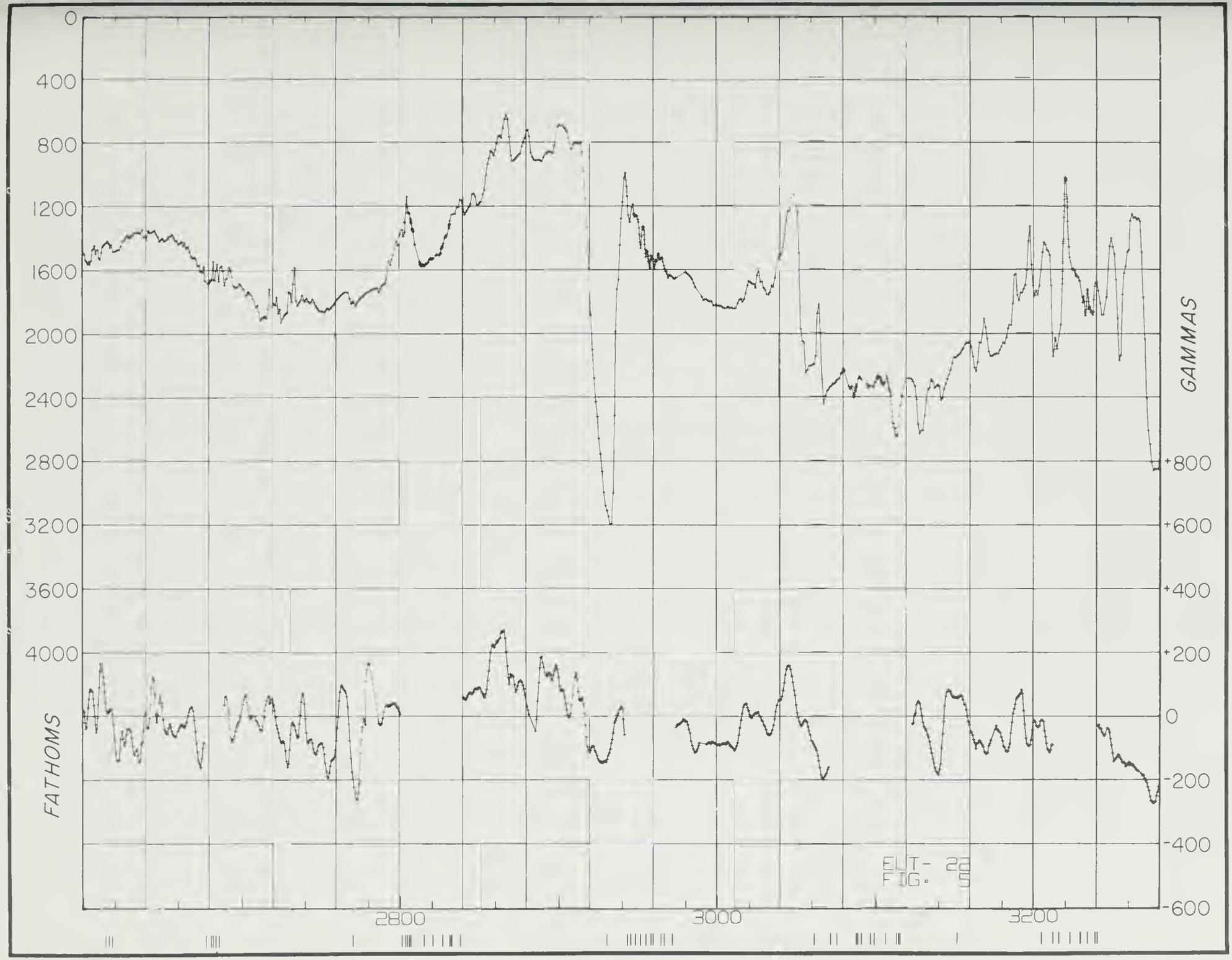
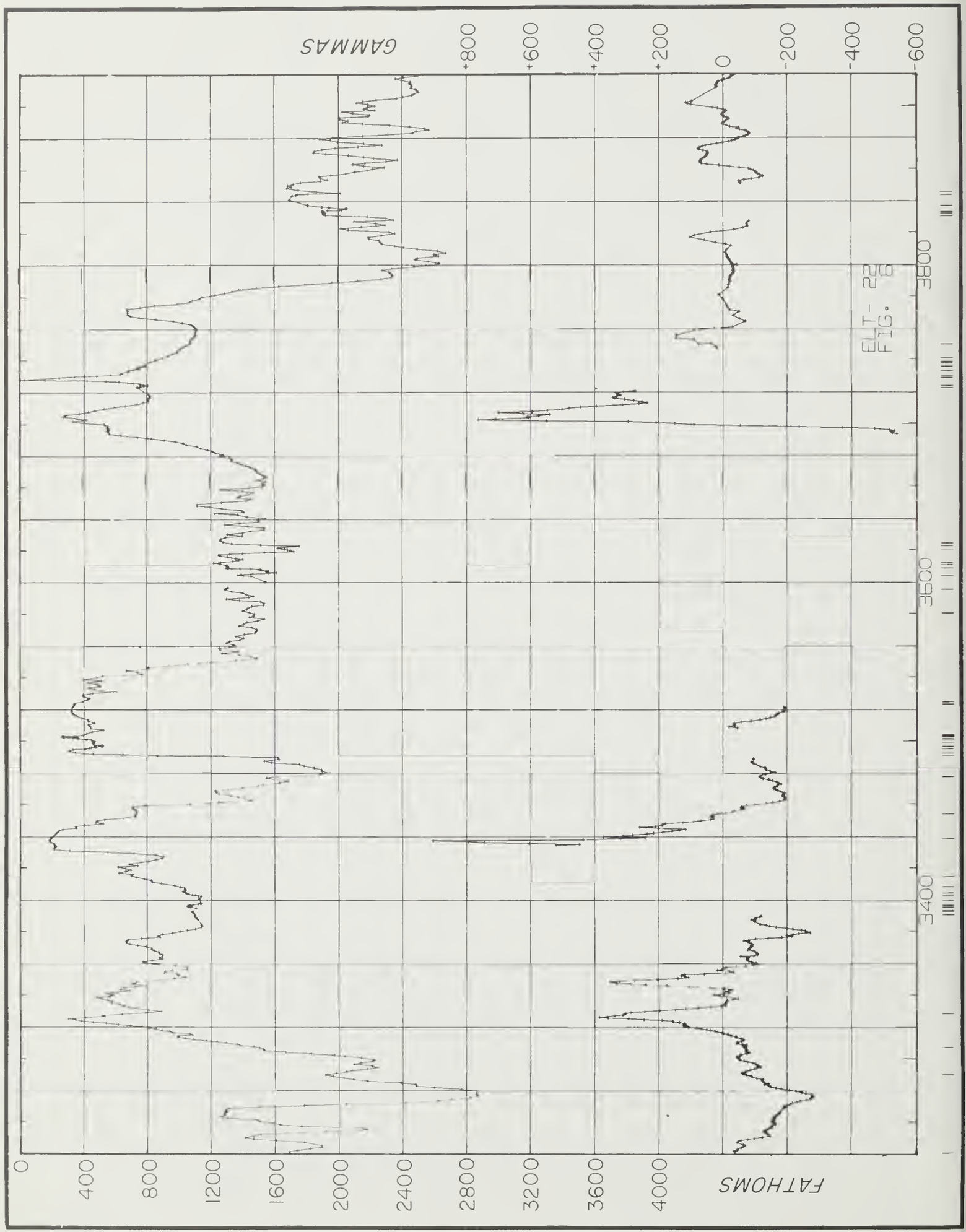
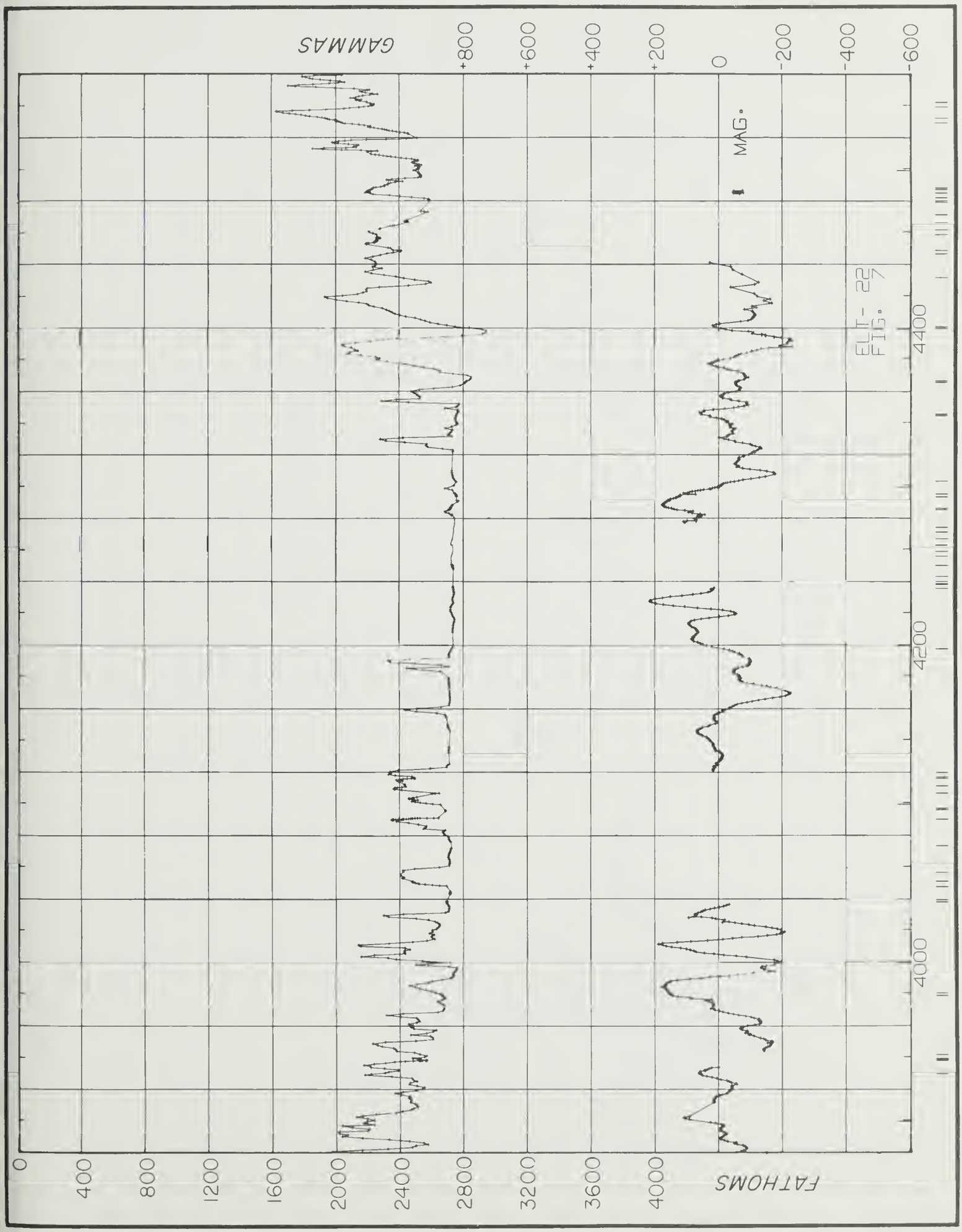
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
1200
1000
ELT- 22
FIG.

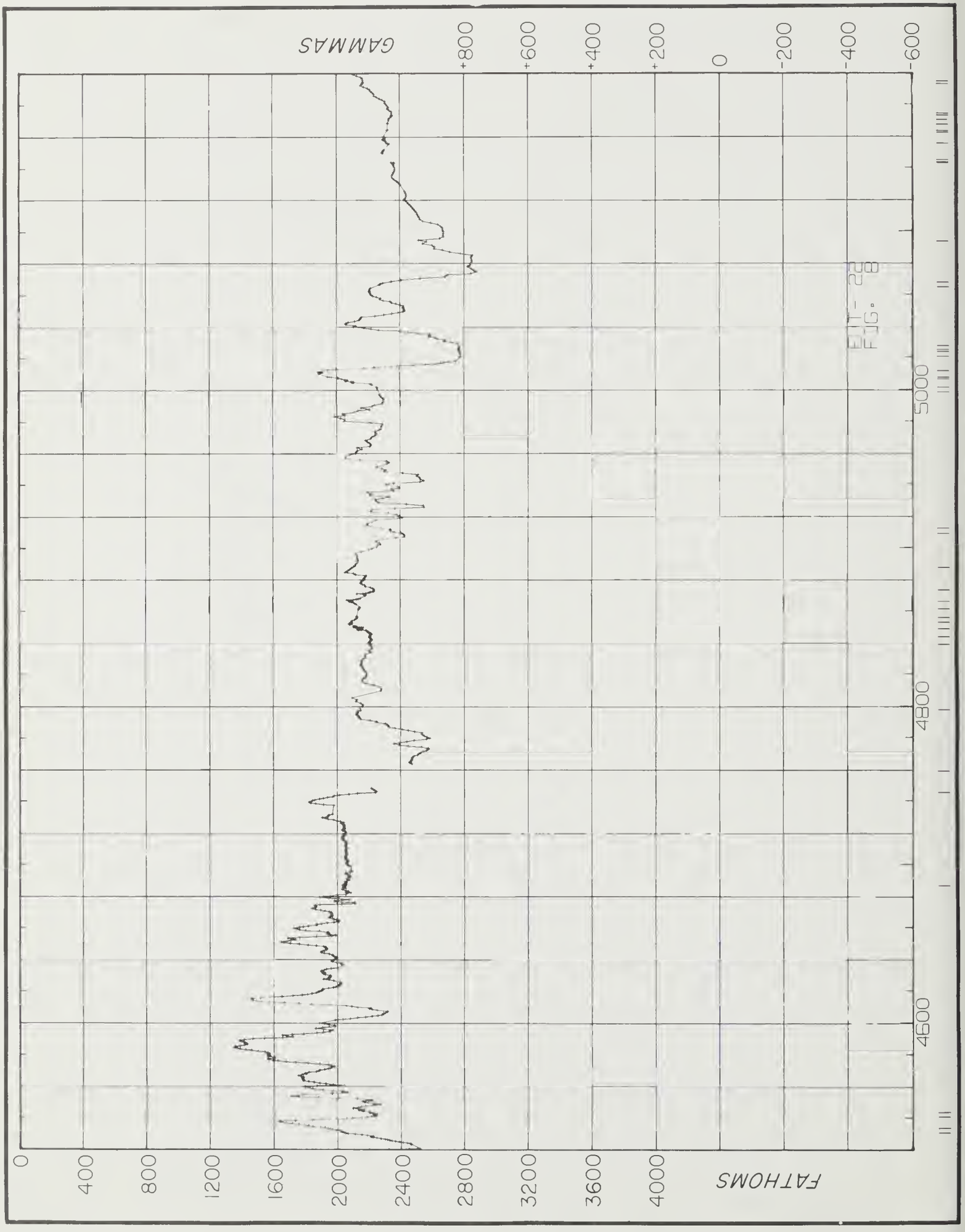

GAMMAS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
1400
1500
1600
ELT- 22
FIG. 3

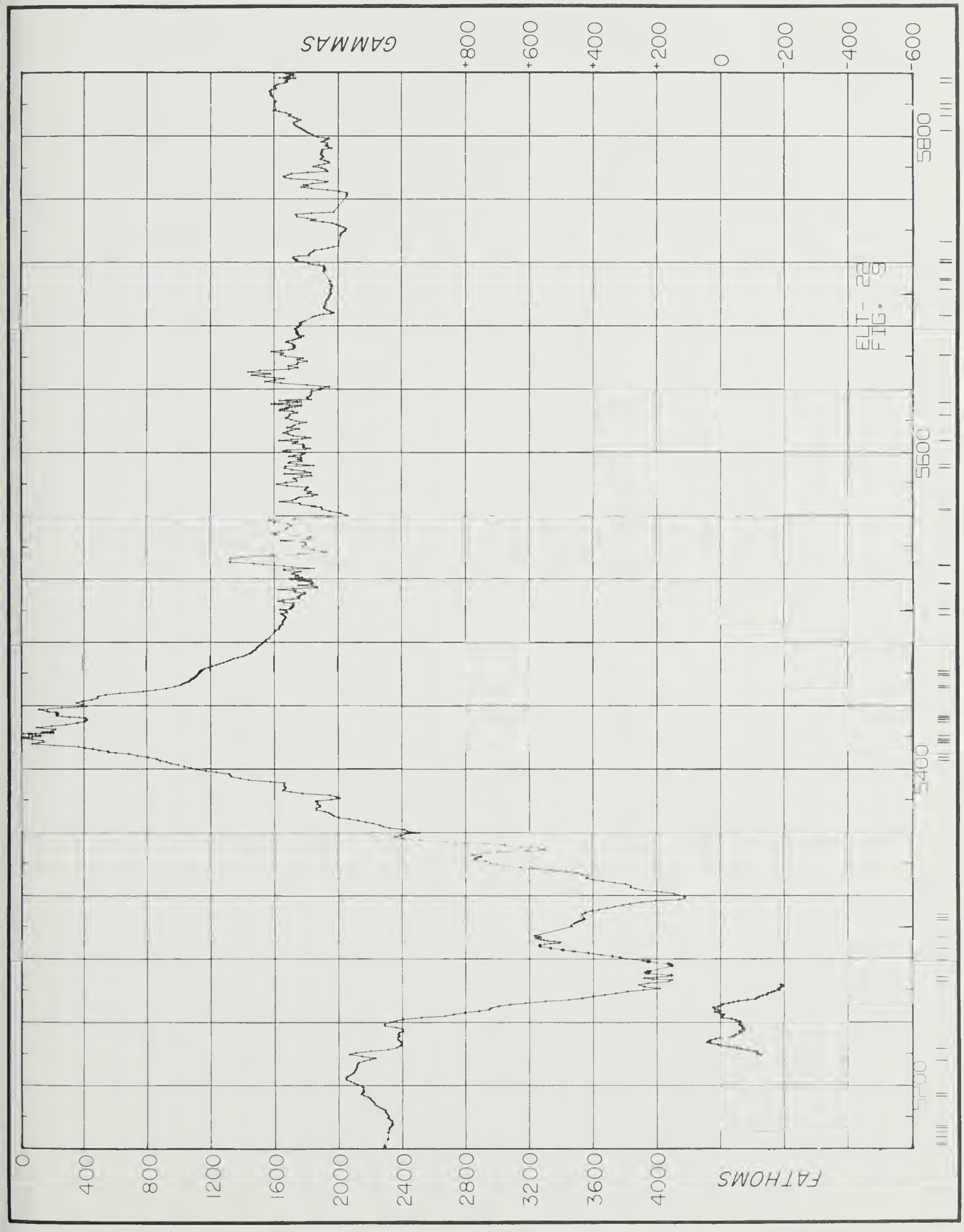

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
2600
2400
2200
2000
ELT- 22
FIG. 4
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS

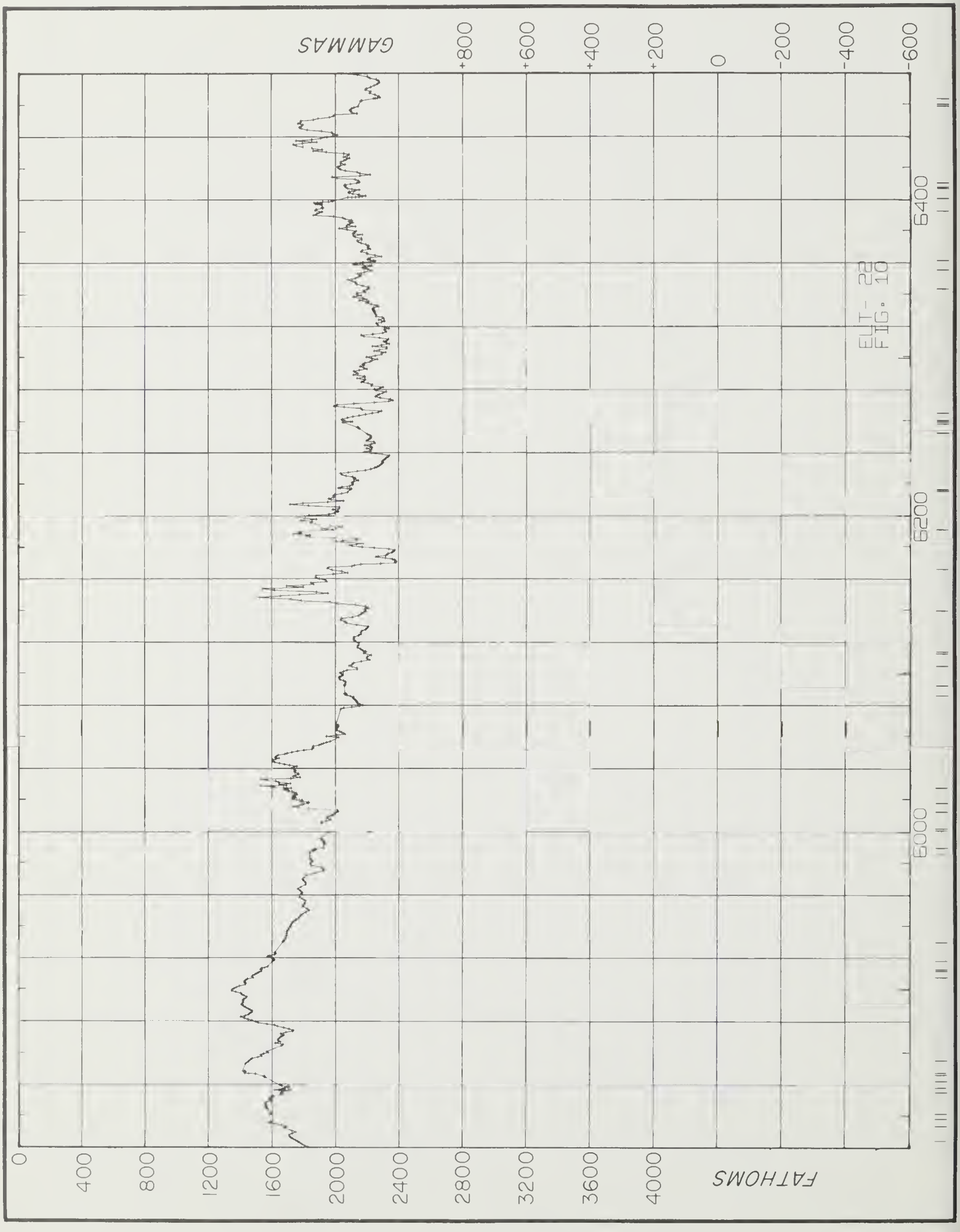

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
+800
+600
+400
+200
0
-200
-400
-600
GAMMAS
2800
3000
3200
EUT- 22
FIG. 5

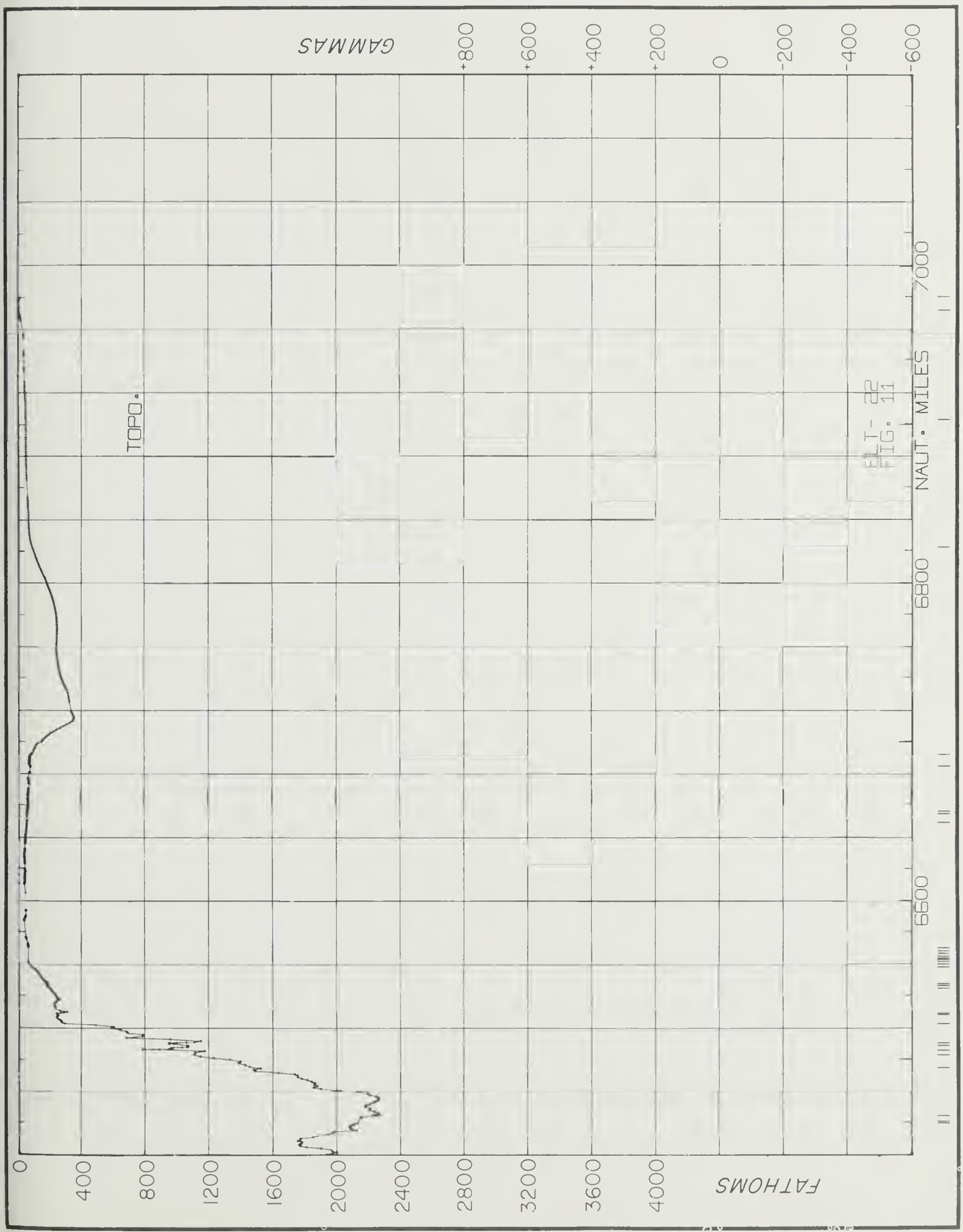

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
3800
3600
3400
ELT- 22
FIG. 6
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS

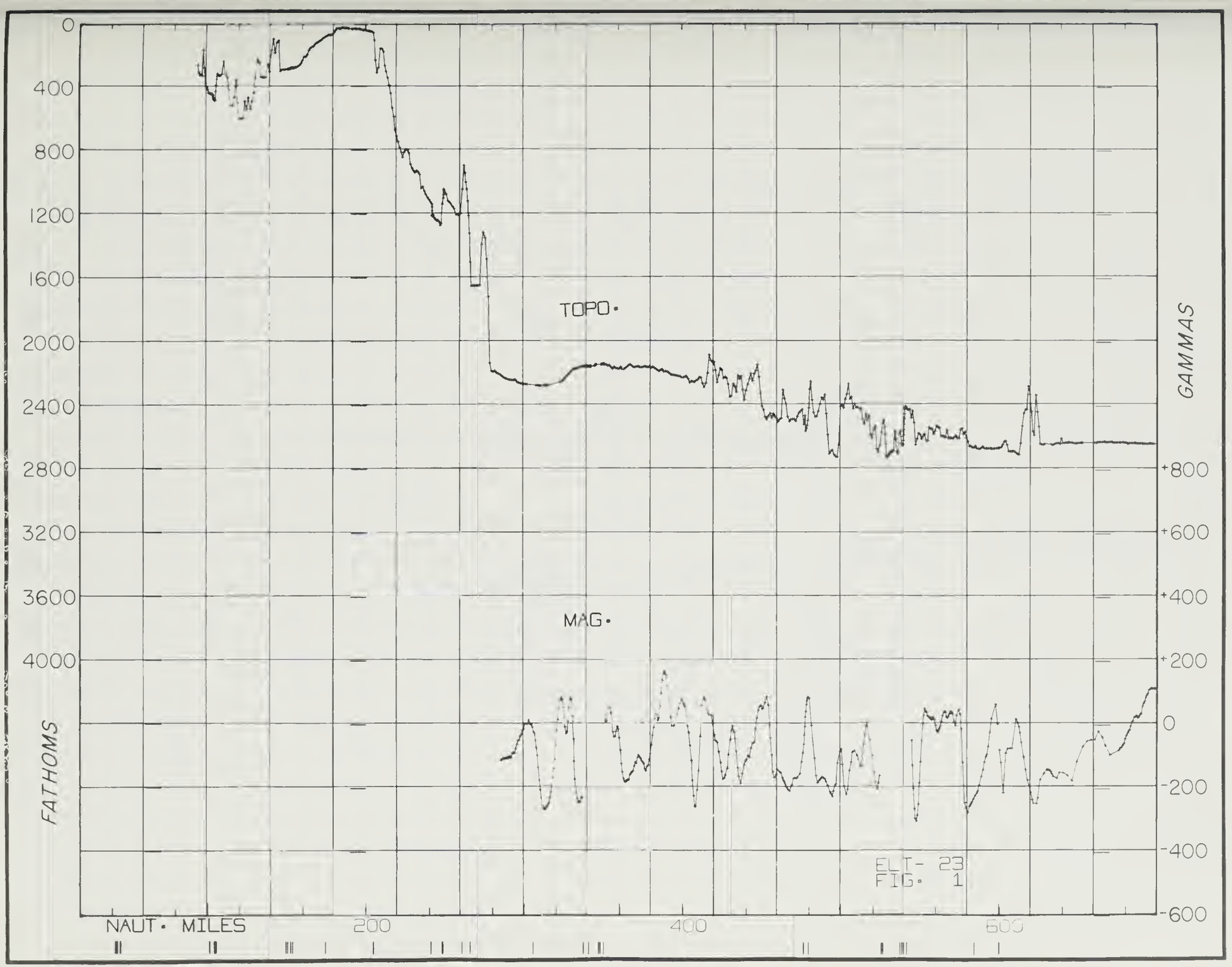

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
MAG.
ELT- 22
FIG. 7
4000
4200
4400
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000

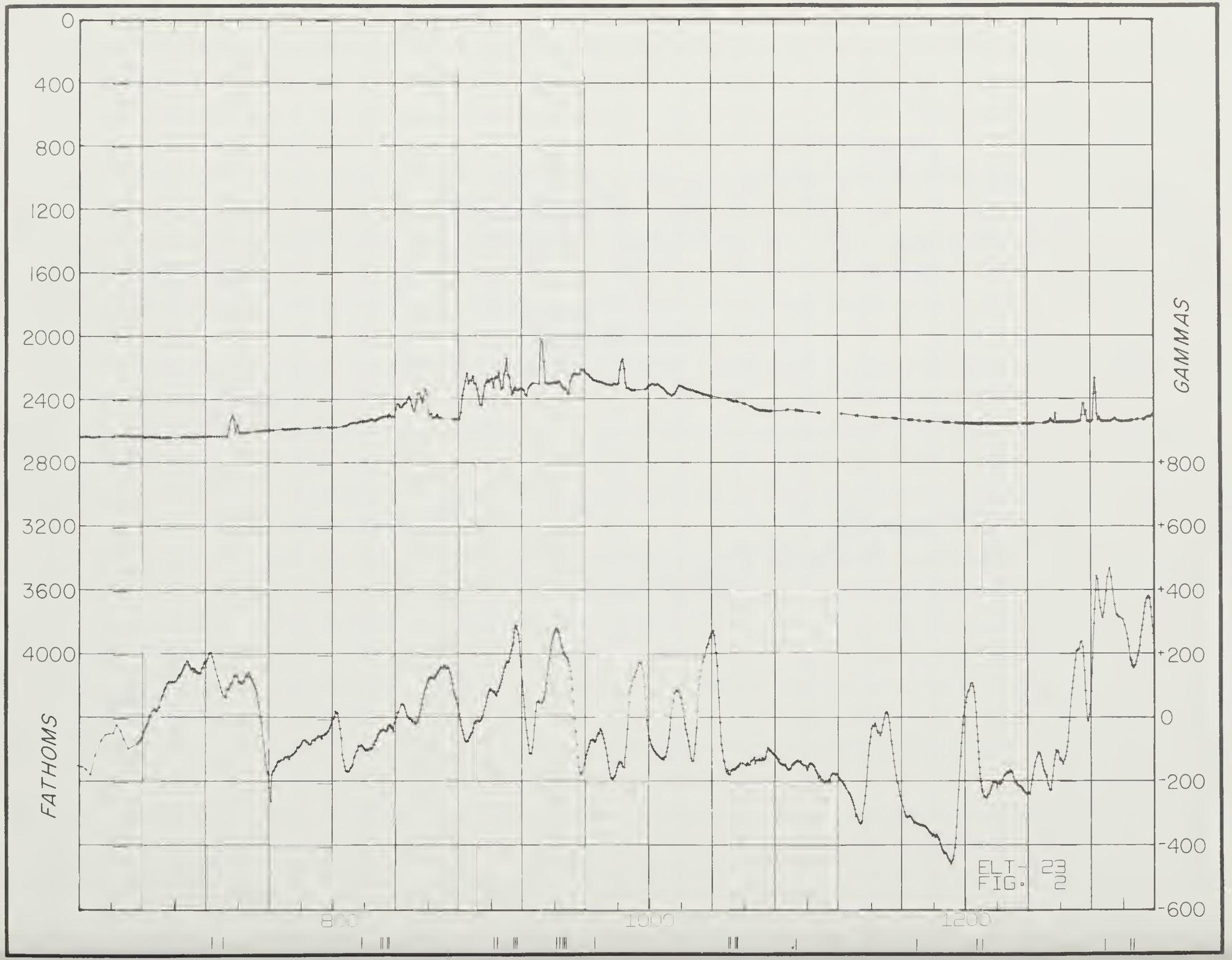

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
4600
4800
5000
E.T. 22
FIG. 8

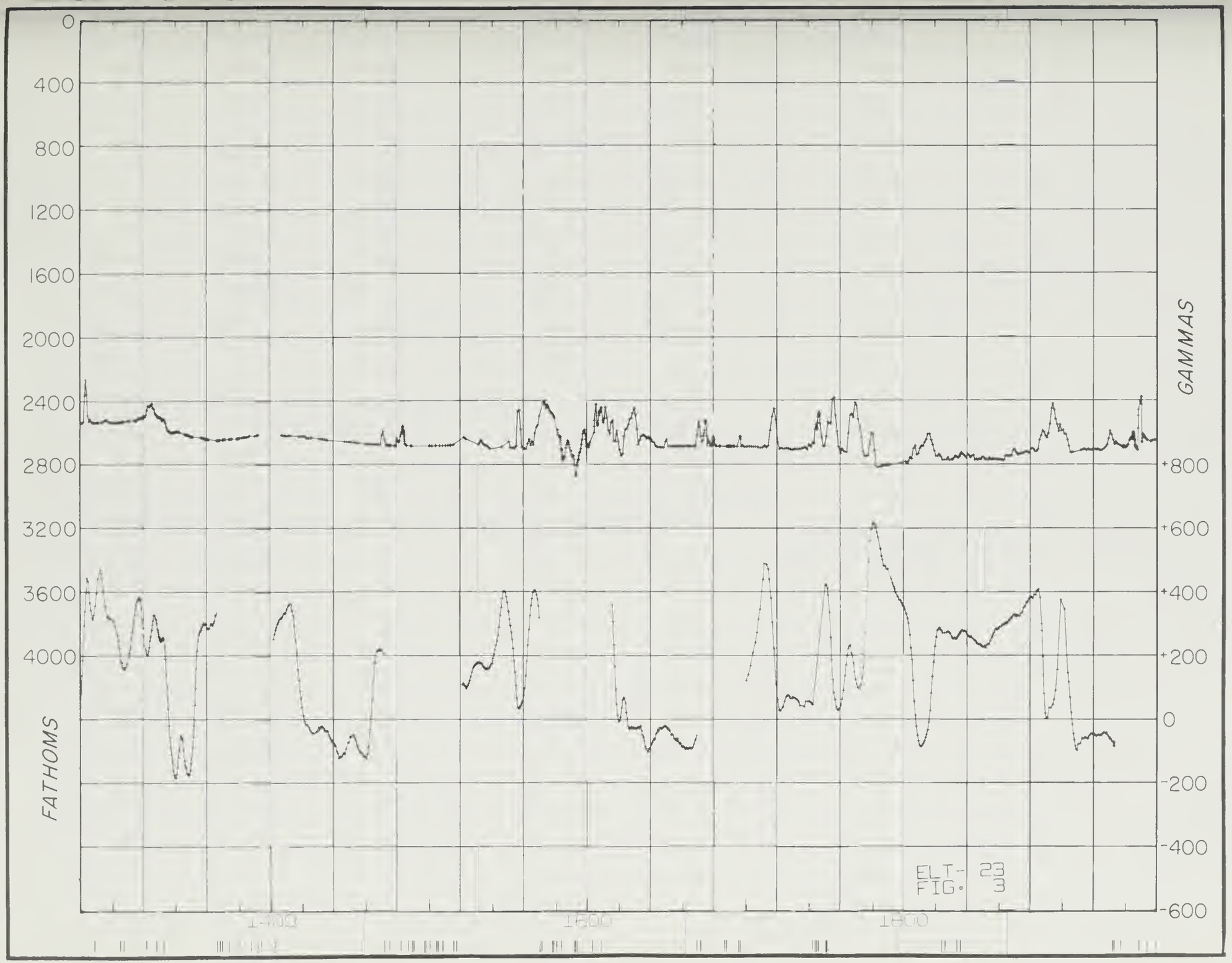

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
5200
5400
5600
5800
EYT- 22
FIG. 9


GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
6400
6200
6000
ELT- 22
FIG. 10
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000

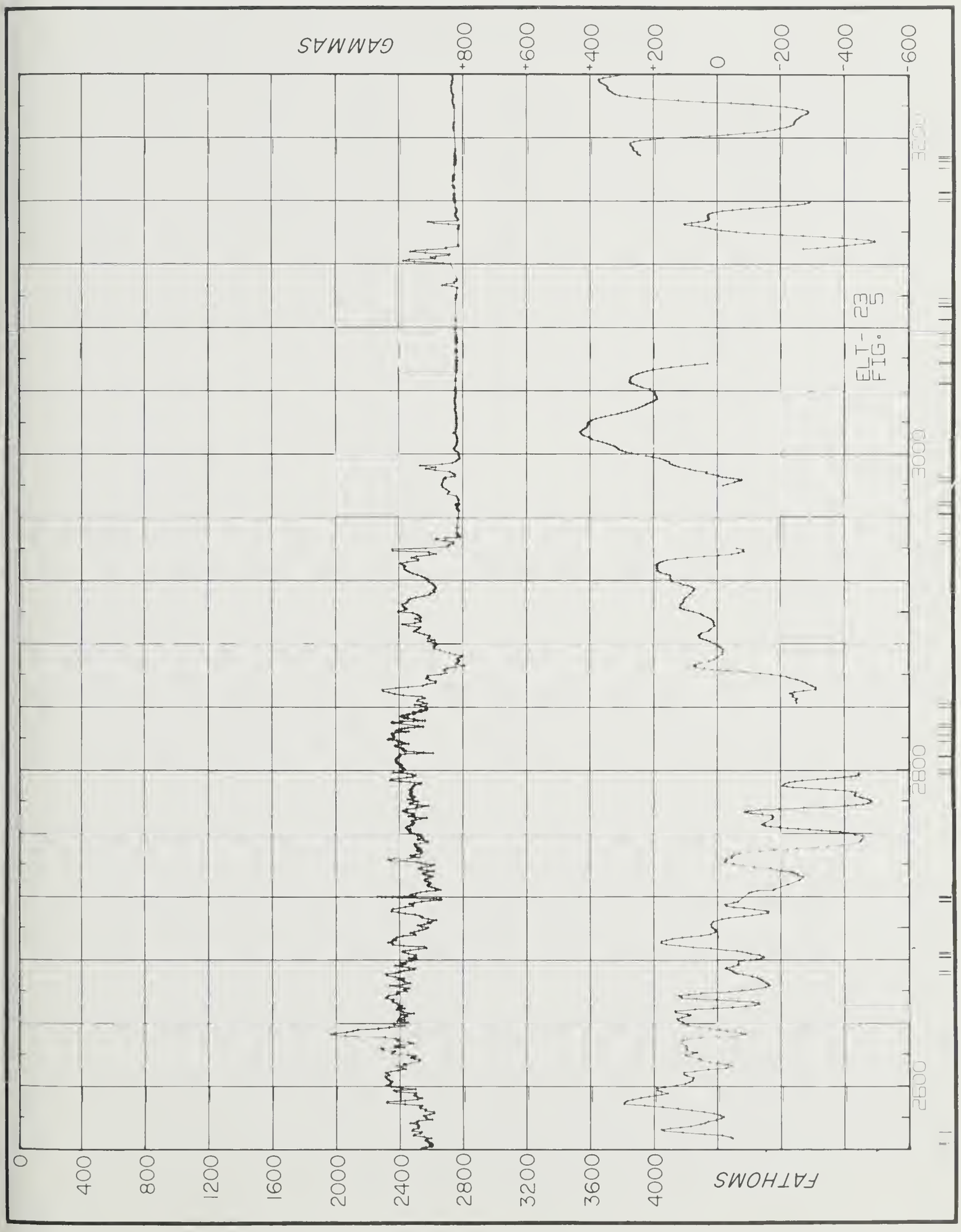

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
TOPO.
FLT- 22
FIG. 11
NAUT. MILES
6600
6800
7000
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000


0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
TOPO.
MAG.
+800
+600
+400
+200
0
-200
-400
-600
GAMMAS
NAUT. MILES
200
400
600
ELT- 23
FIG. 1

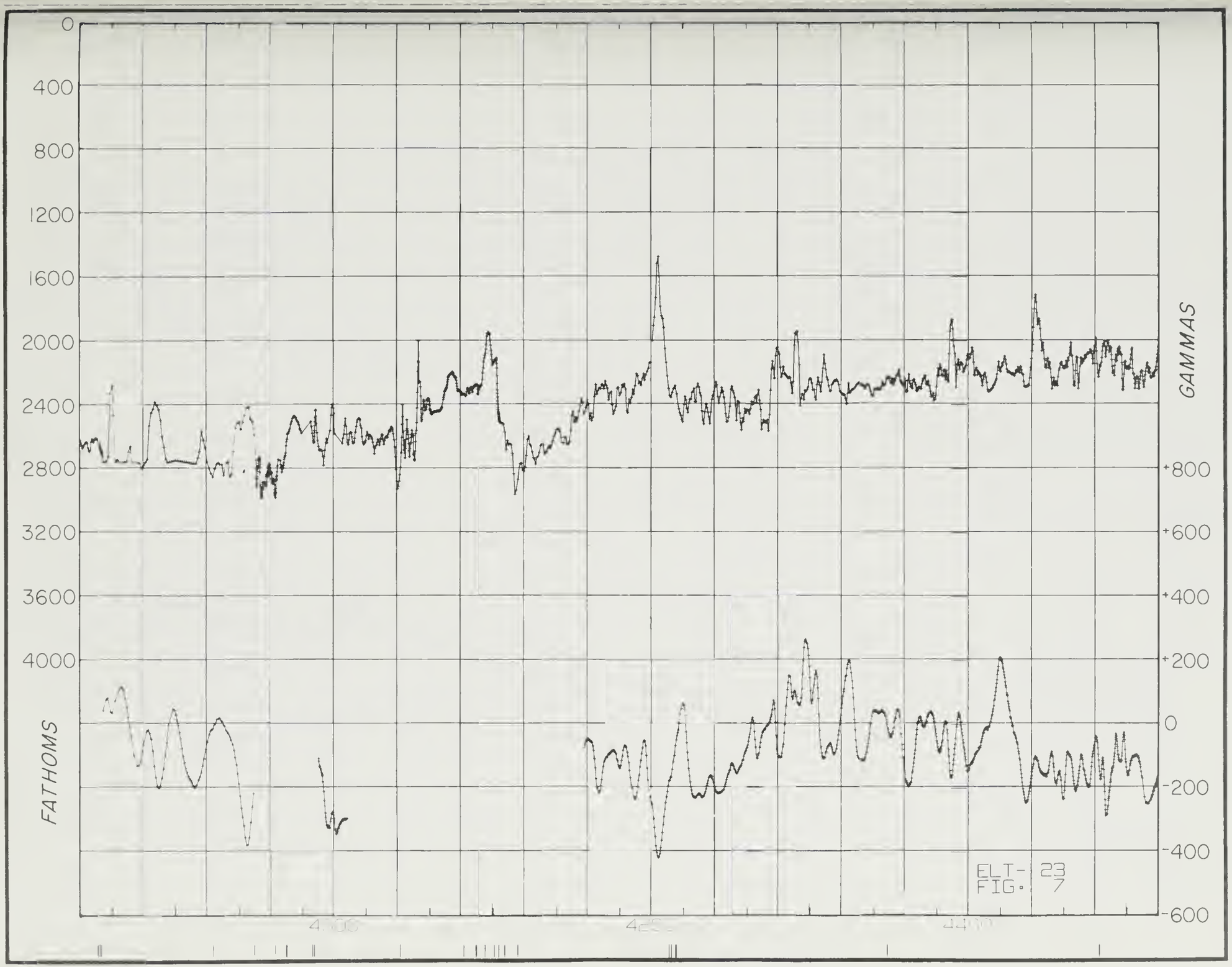

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
800
1000
1200
ELT- 23
FIG. 2

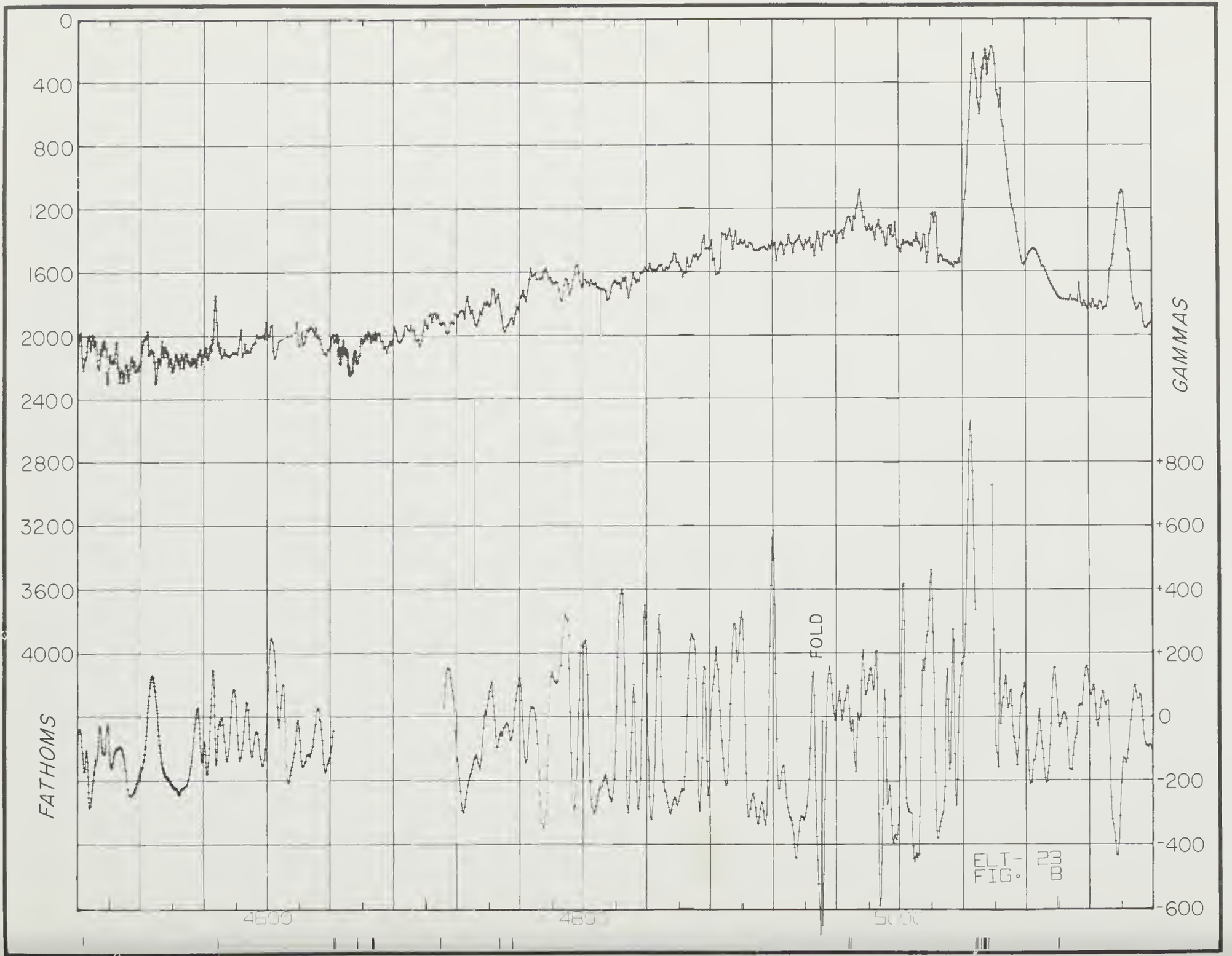

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
1400
1500
1600
ELT- 23
FIG. 3

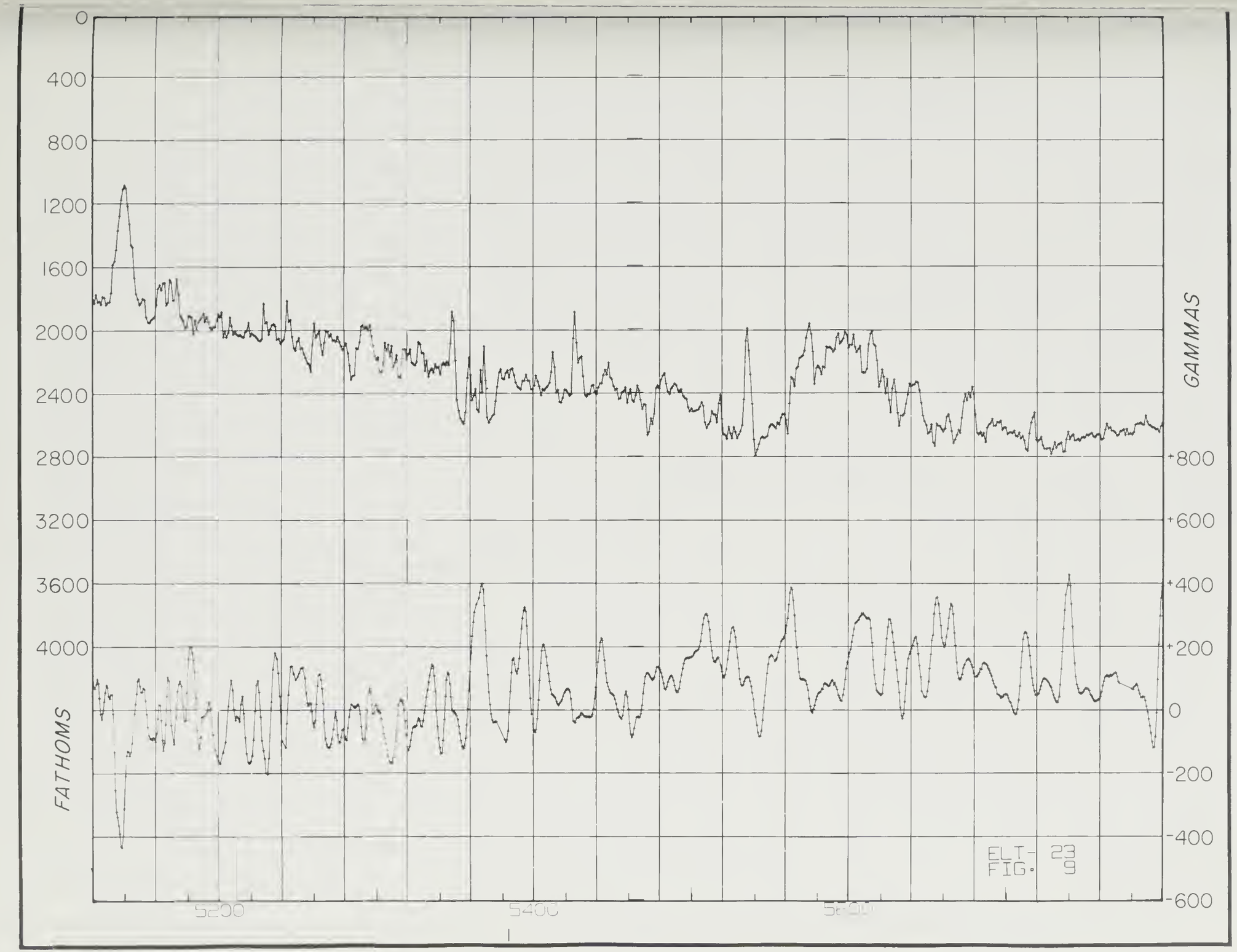
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
2000
2200
2400
ELI- 23
FIG. 4

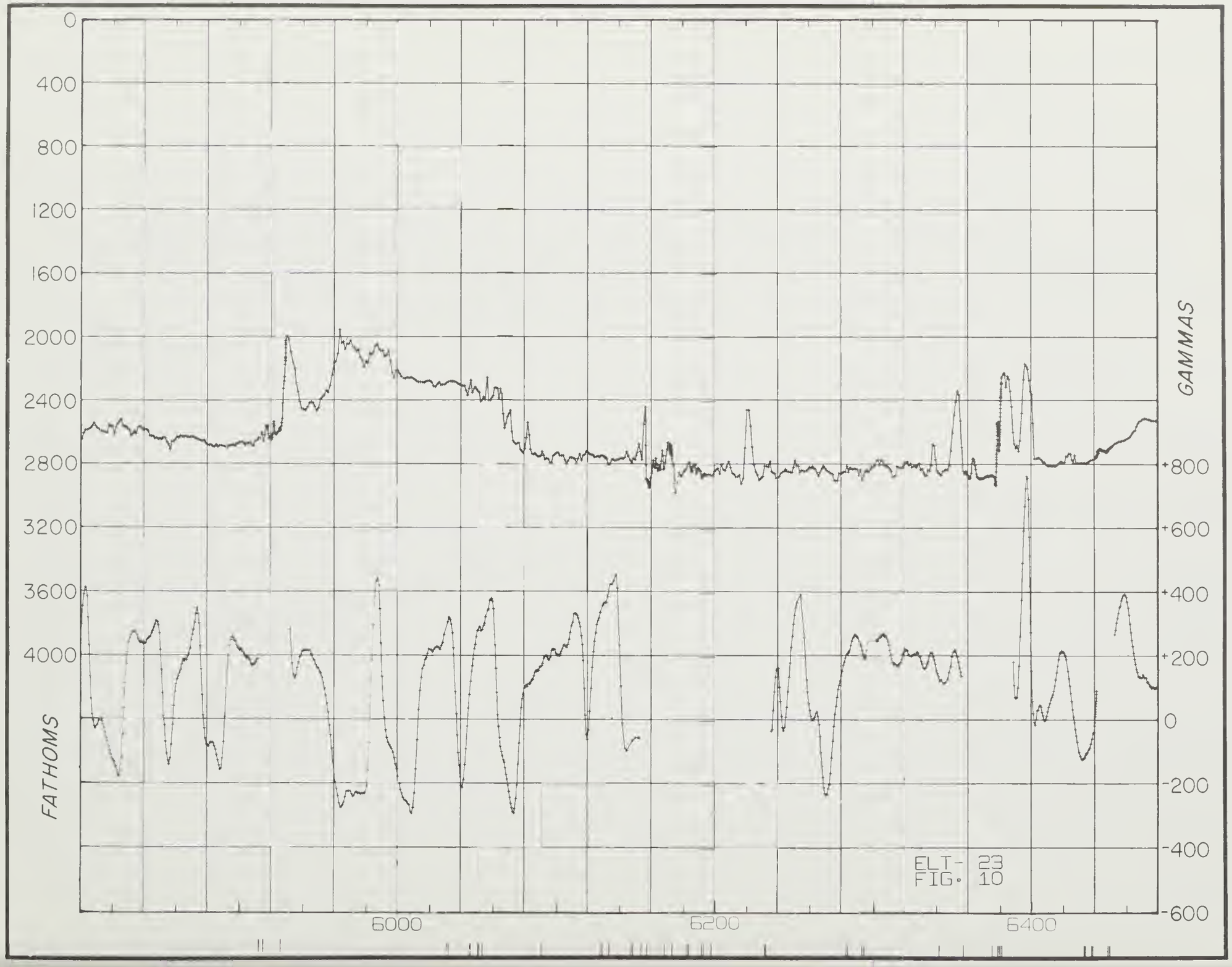

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
2600
2800
3000
3200
ELT- 23
FIG. 5

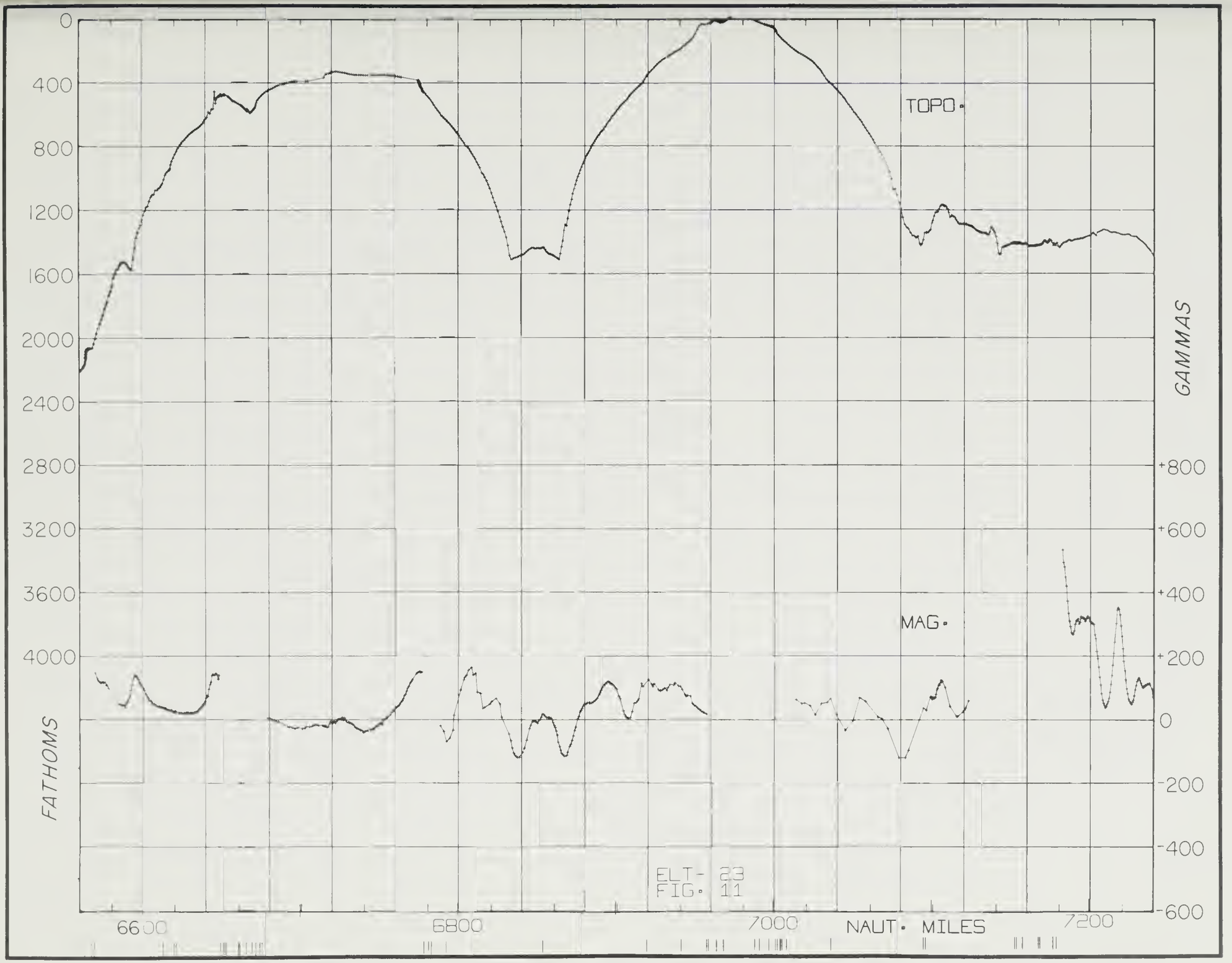
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
3400
3600
3800
ELT- 23
FIG. 6

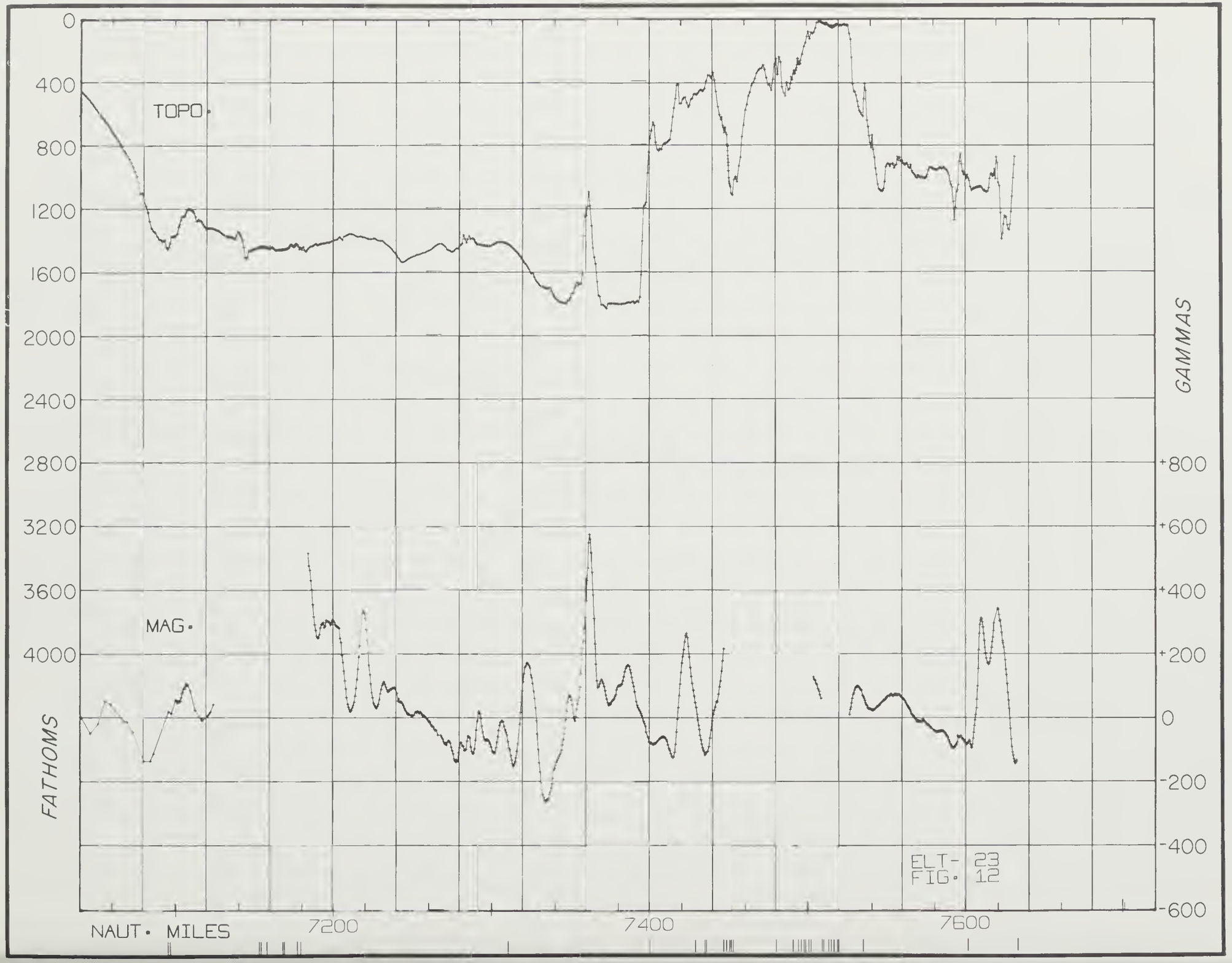

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
+800
+600
+400
+200
0
-200
-400
-600
GAMMAS
ELT- 23
FIG. 7

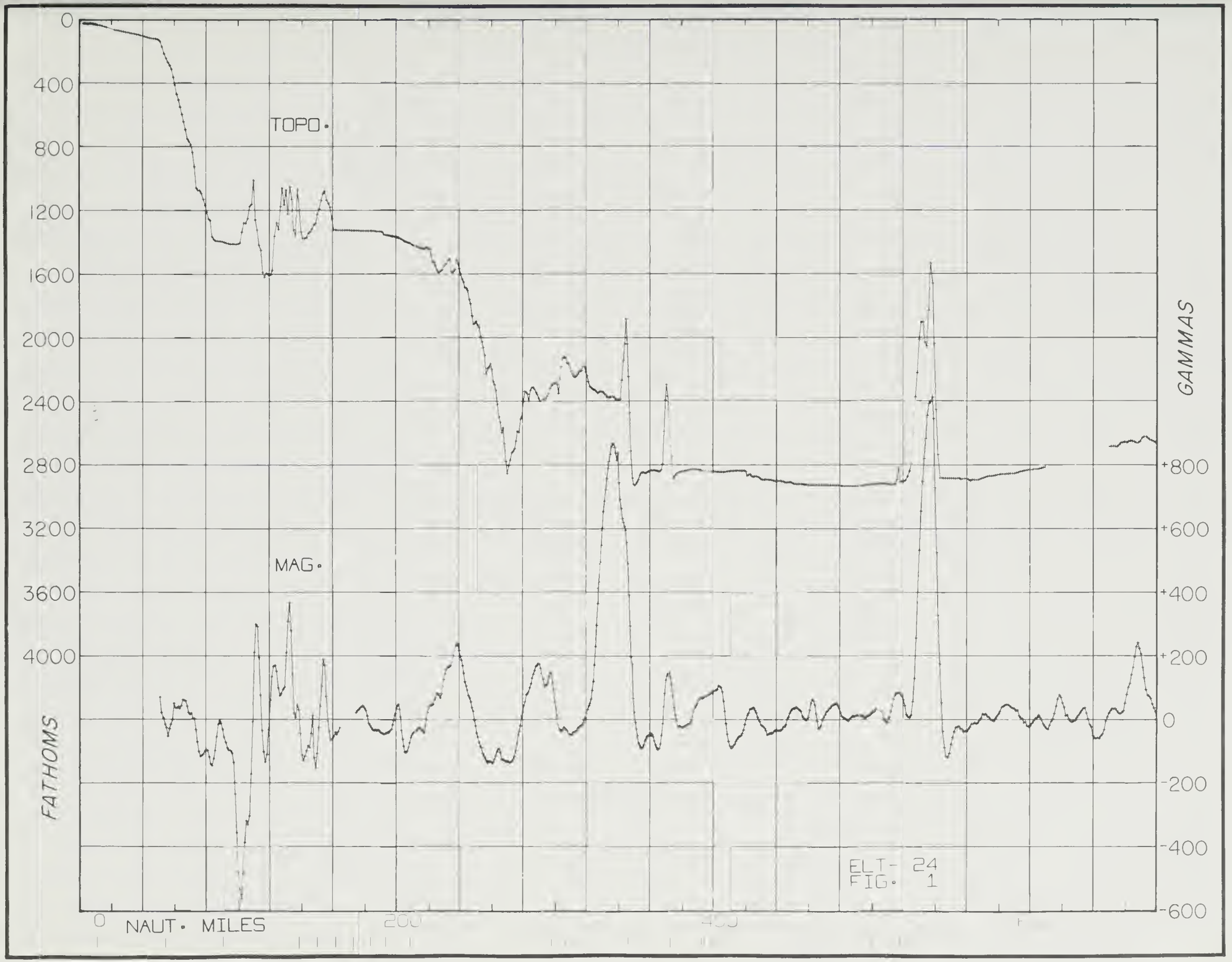

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FOLD
4600
4800
5000
ELT-
FIG.
23
8

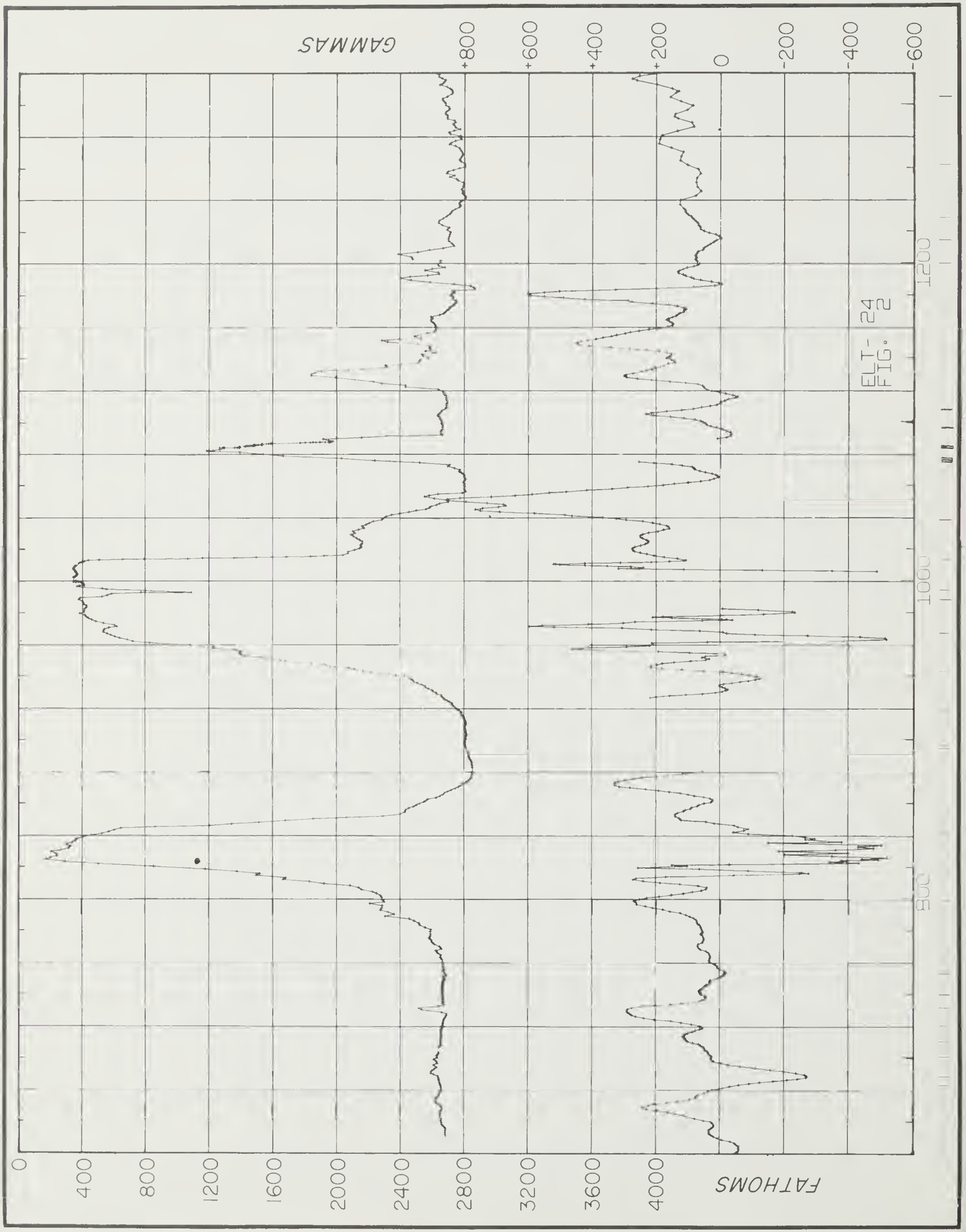

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
5200
5400
ELI- 23
FIG. 9

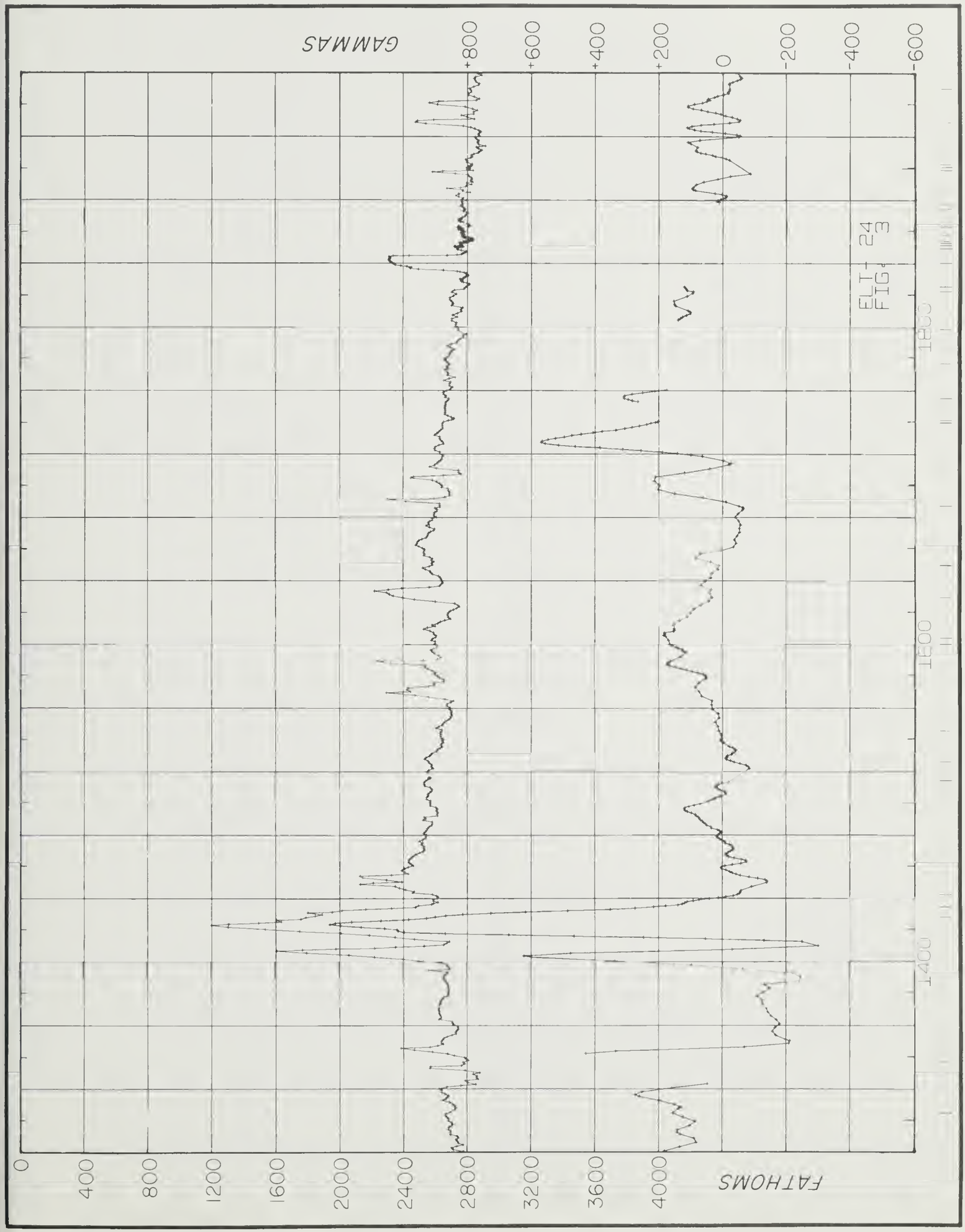

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
6000
6200
6400
ELT- 23
FIG. 10

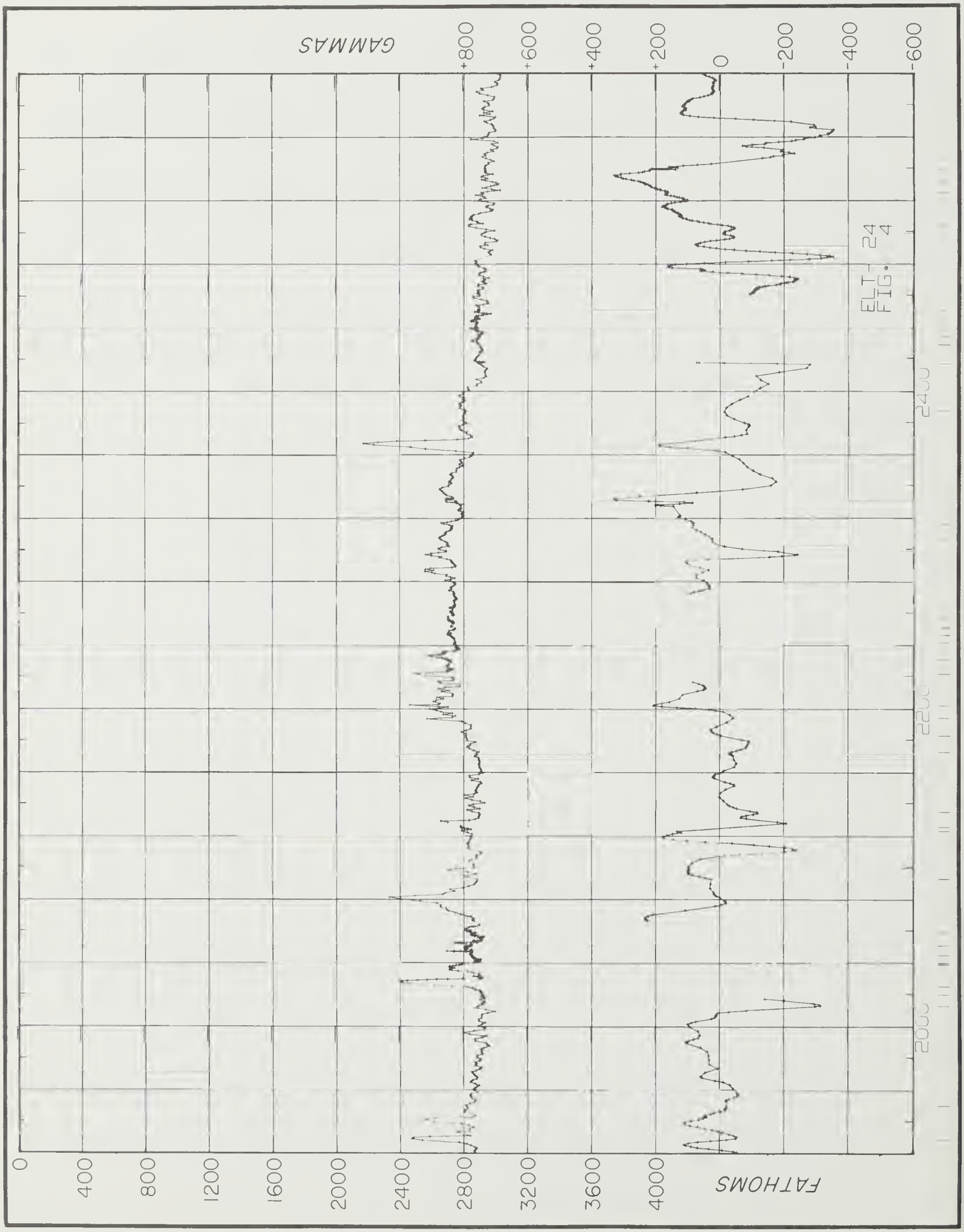

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
TOPO.
MAG.
+800
+600
+400
+200
0
-200
-400
-600
GAMMAS
6600
6800
7000
7200
NAUT. MILES
ELT- 23
FIG. 11

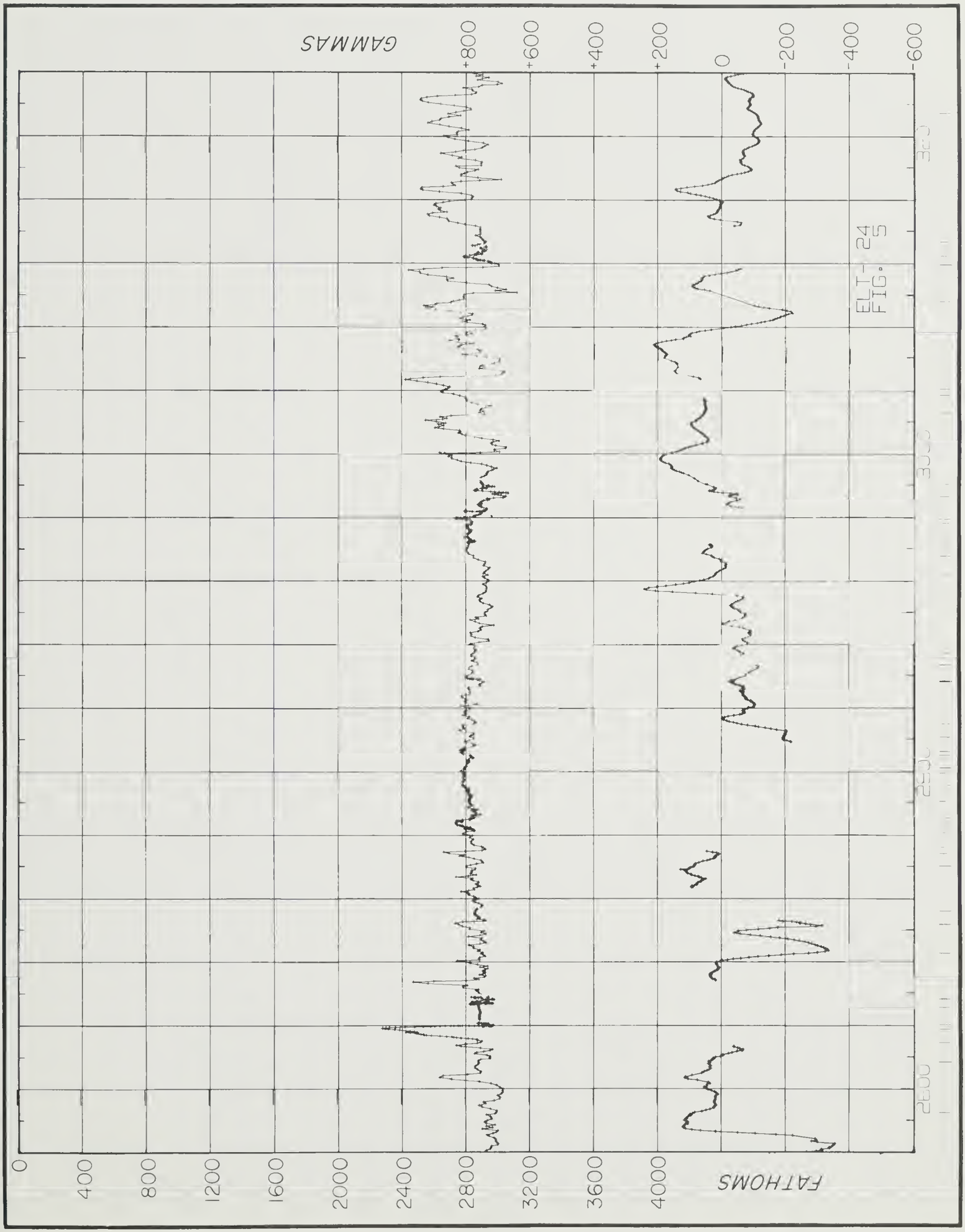

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
TOPO.
MAG.
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
ELT- 23
FIG. 12
NAUT. MILES
7200
7400
7600

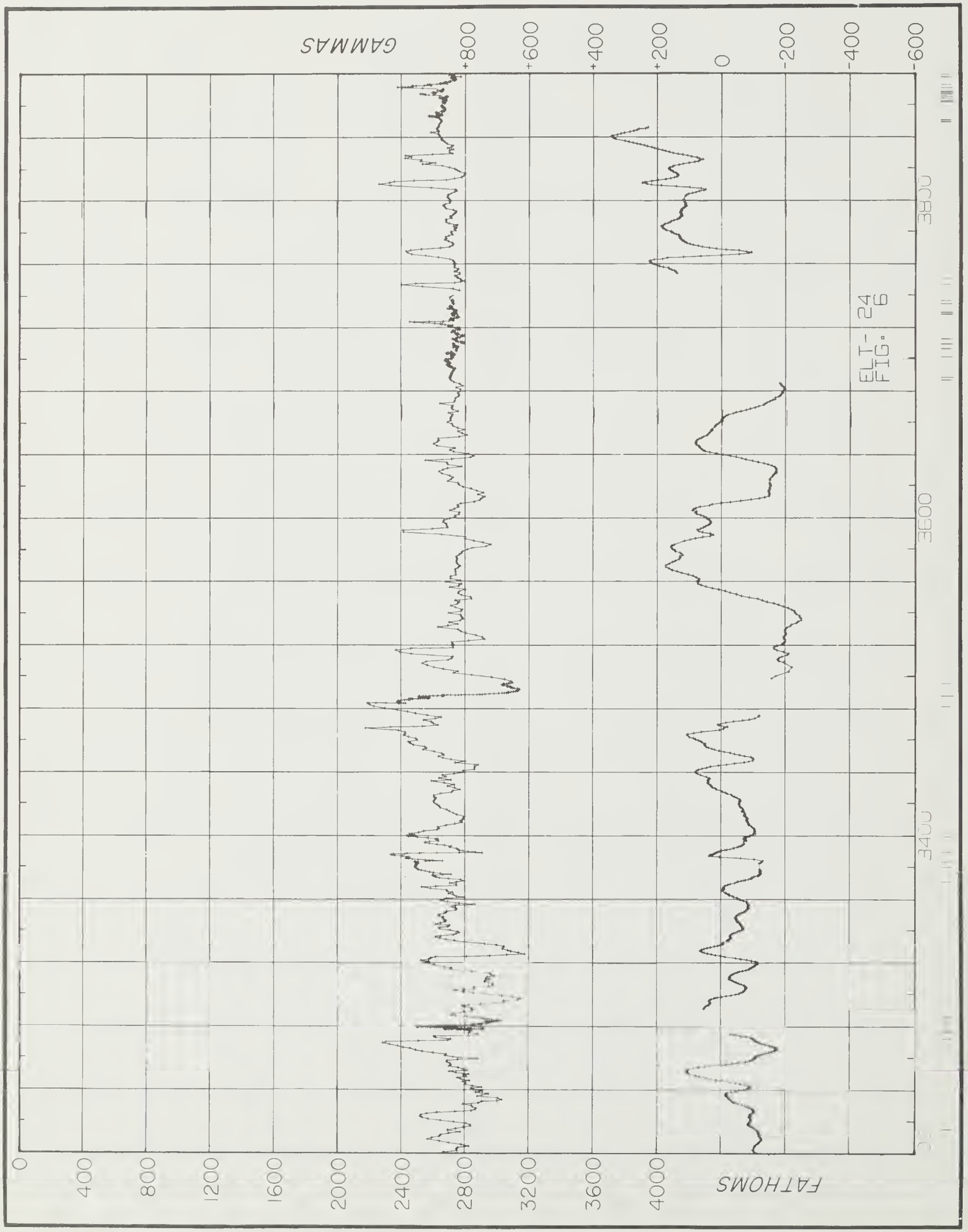

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
TOPO.
MAG.
+800
+600
+400
+200
0
-200
-400
-600
GAMMAS
0
NAUT. MILES
200
ELT- 24
FIG. 1

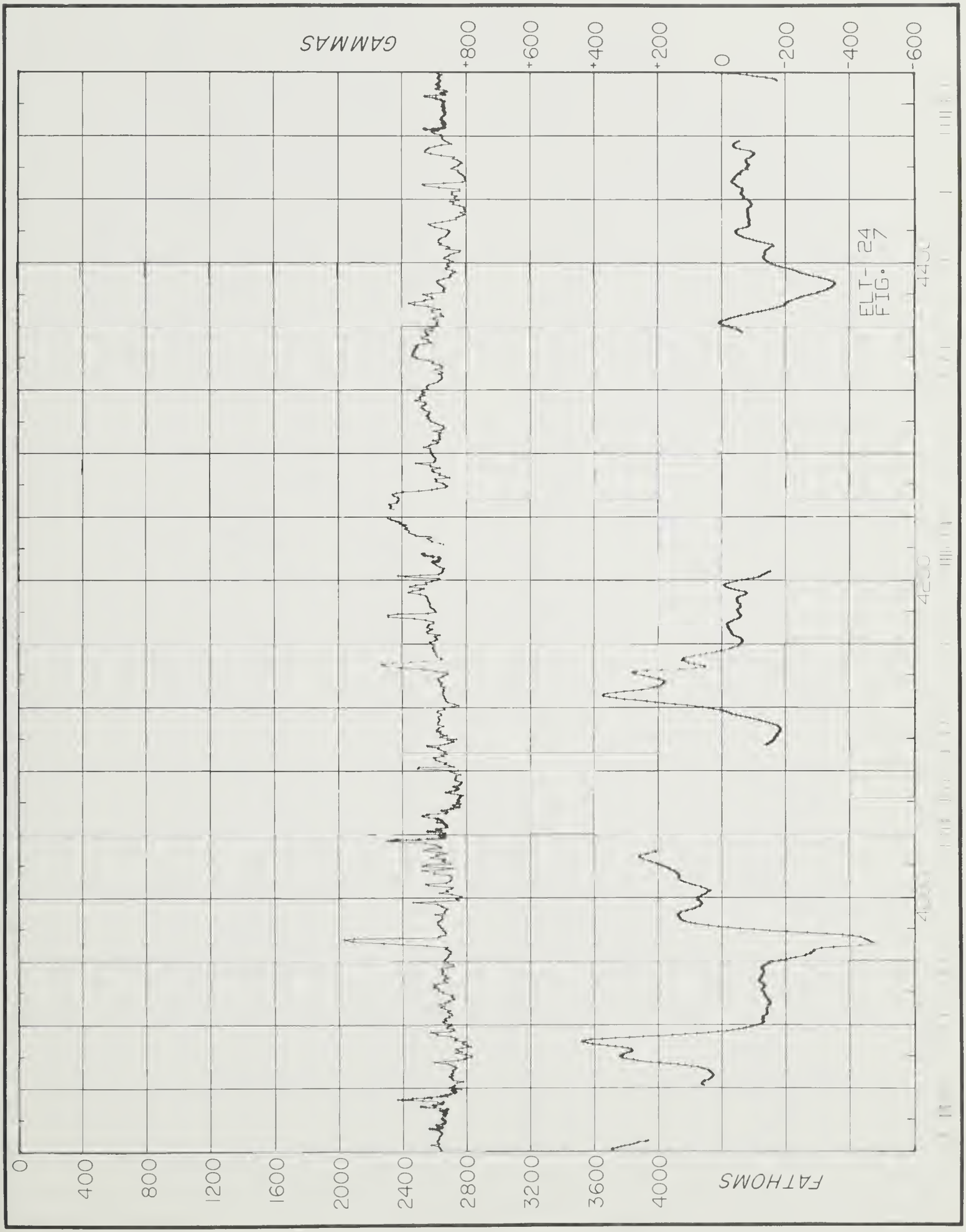

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
800
1000
1200
ELT-
FIG.
24
2

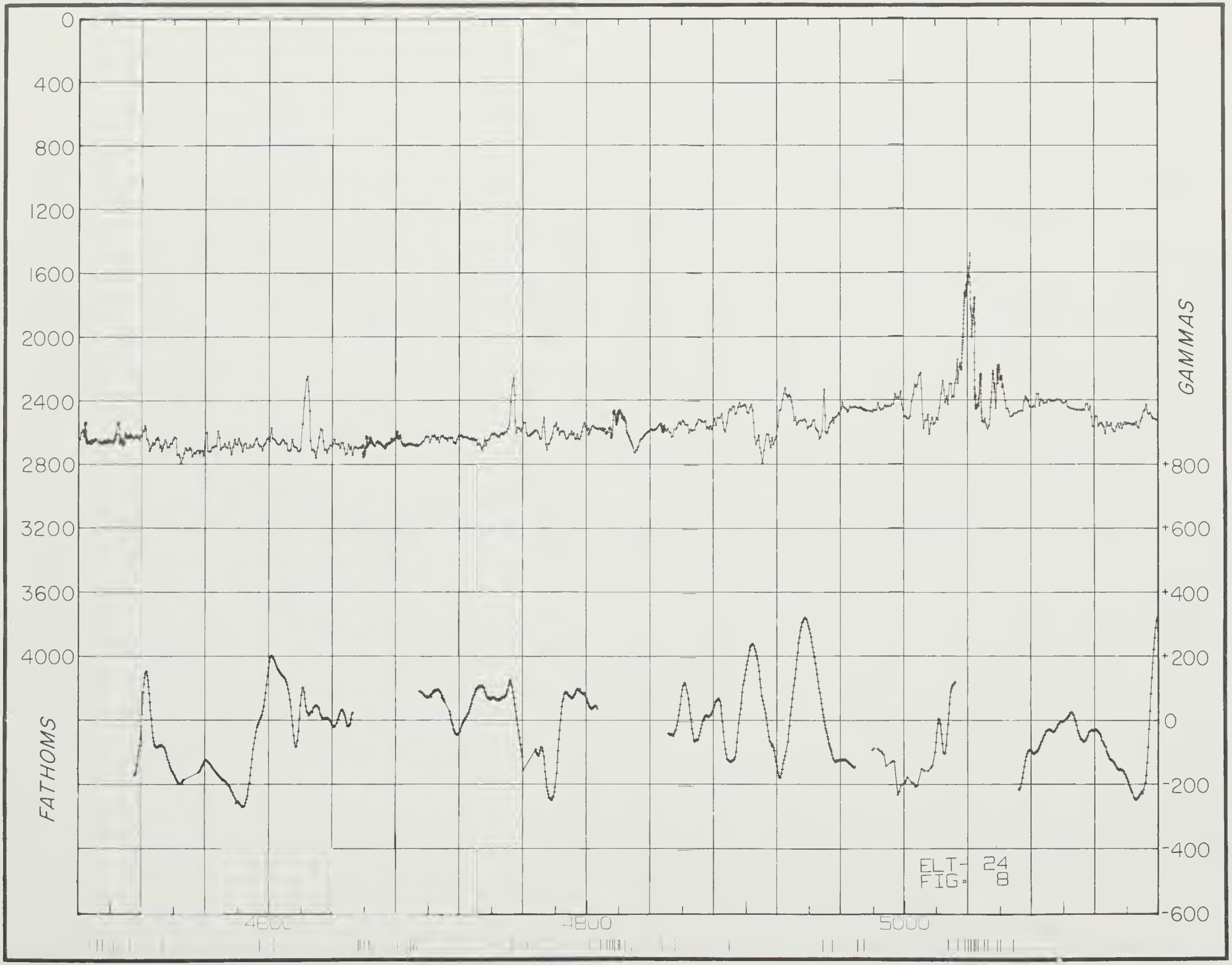

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
1400
1500
ELI+ 24
FIG 3

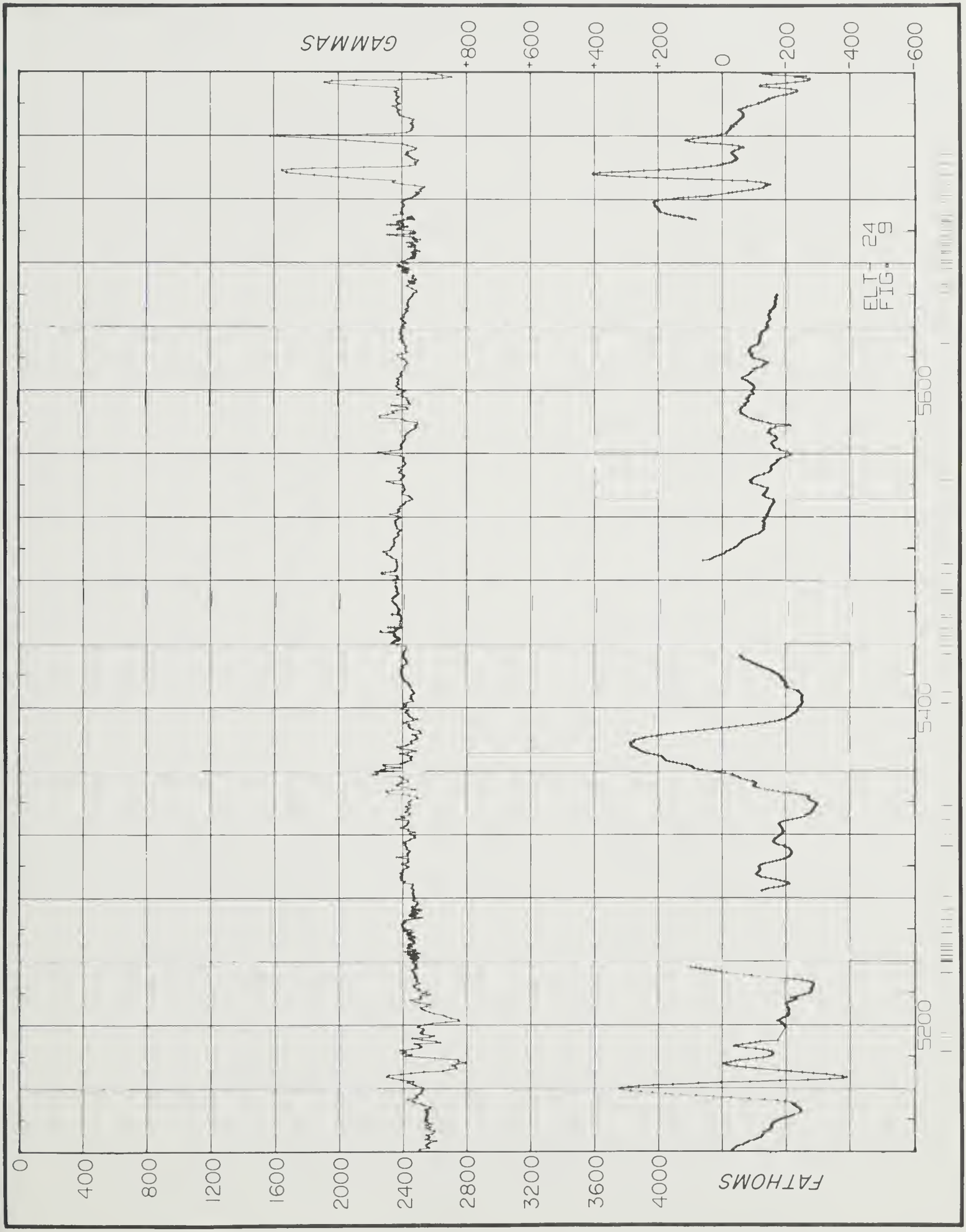

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 24
FIG. 4

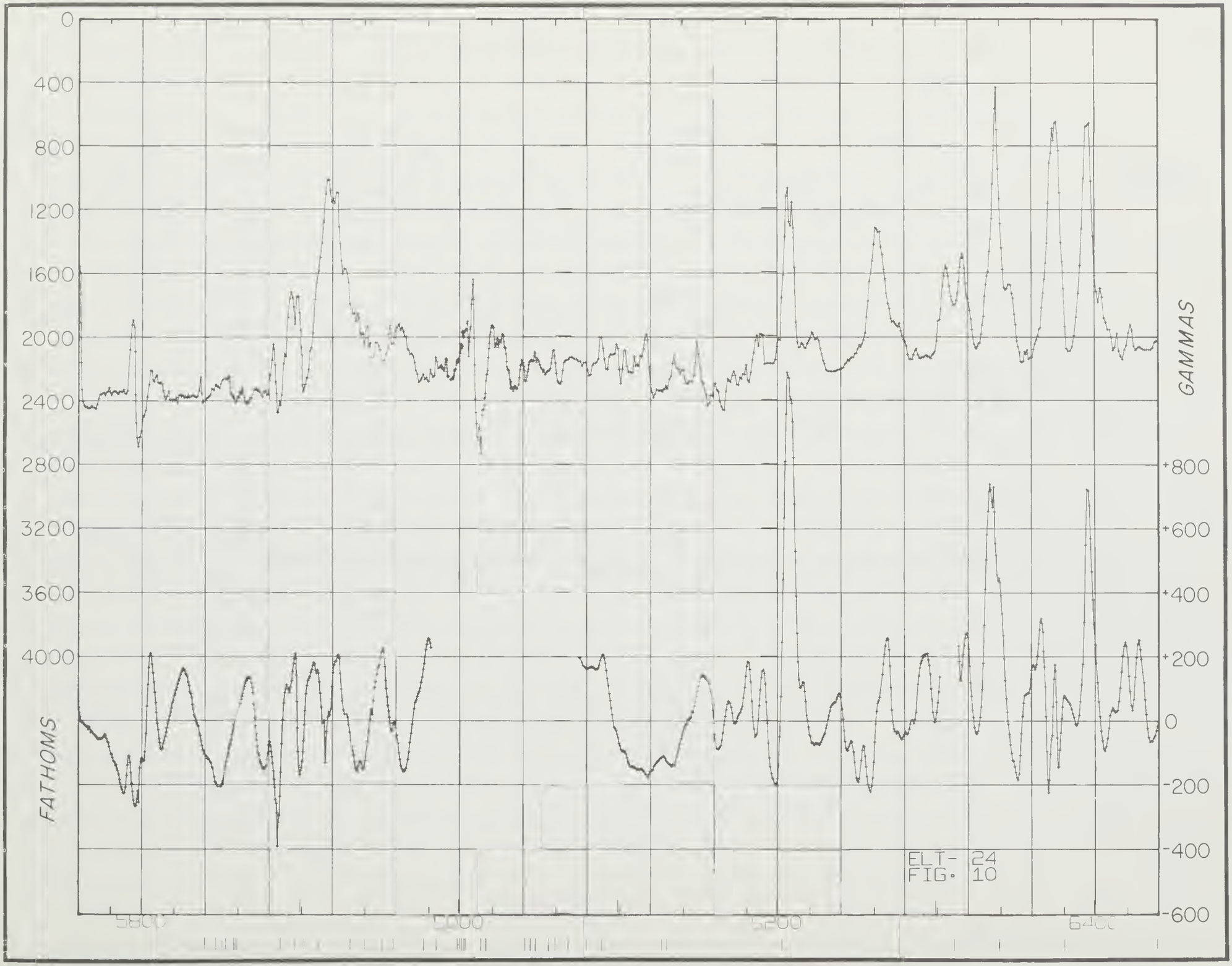

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELI-24
FIG. 5

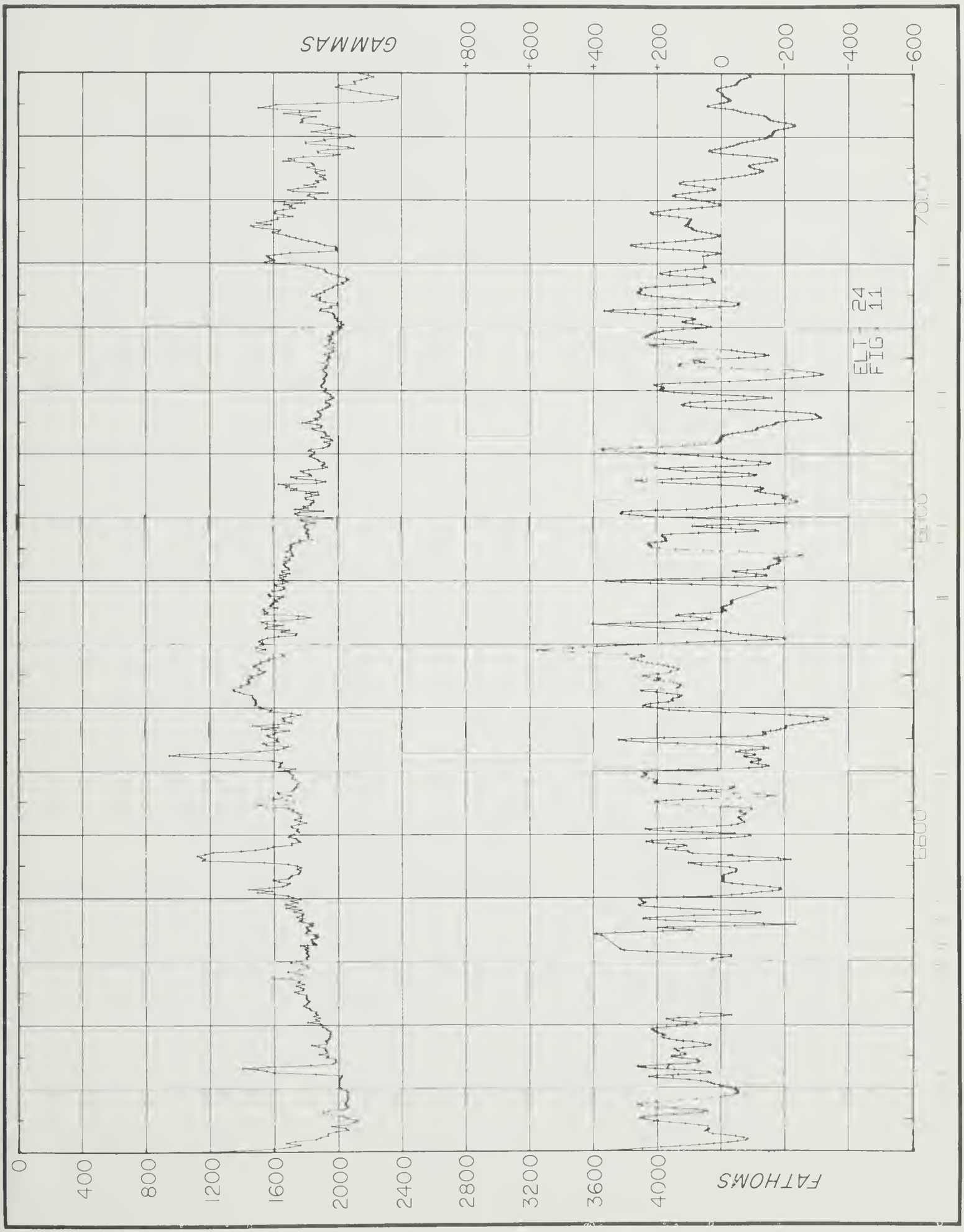

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
3800
3600
3400
ELT- 24
FIG. 6

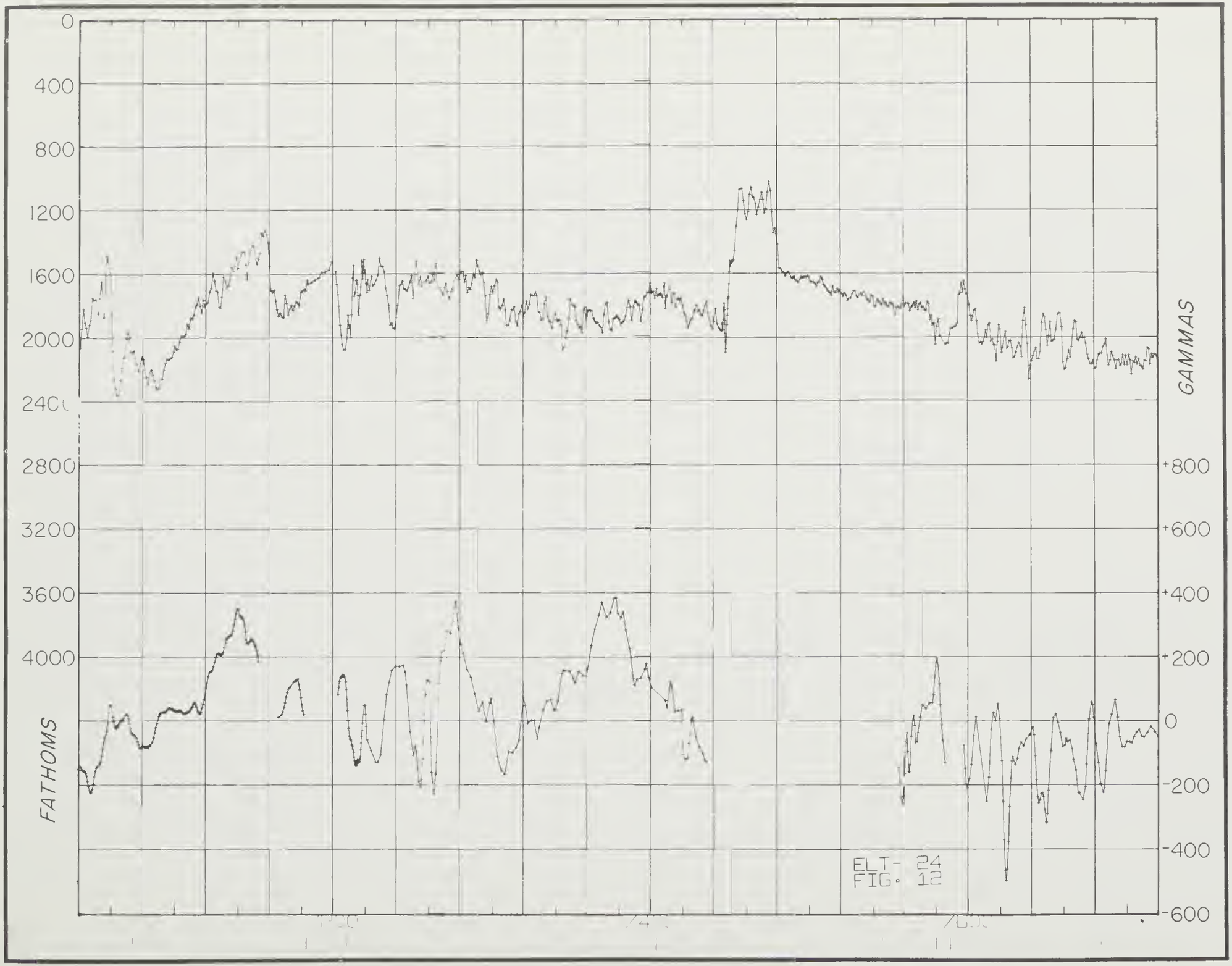

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 24
FIG.

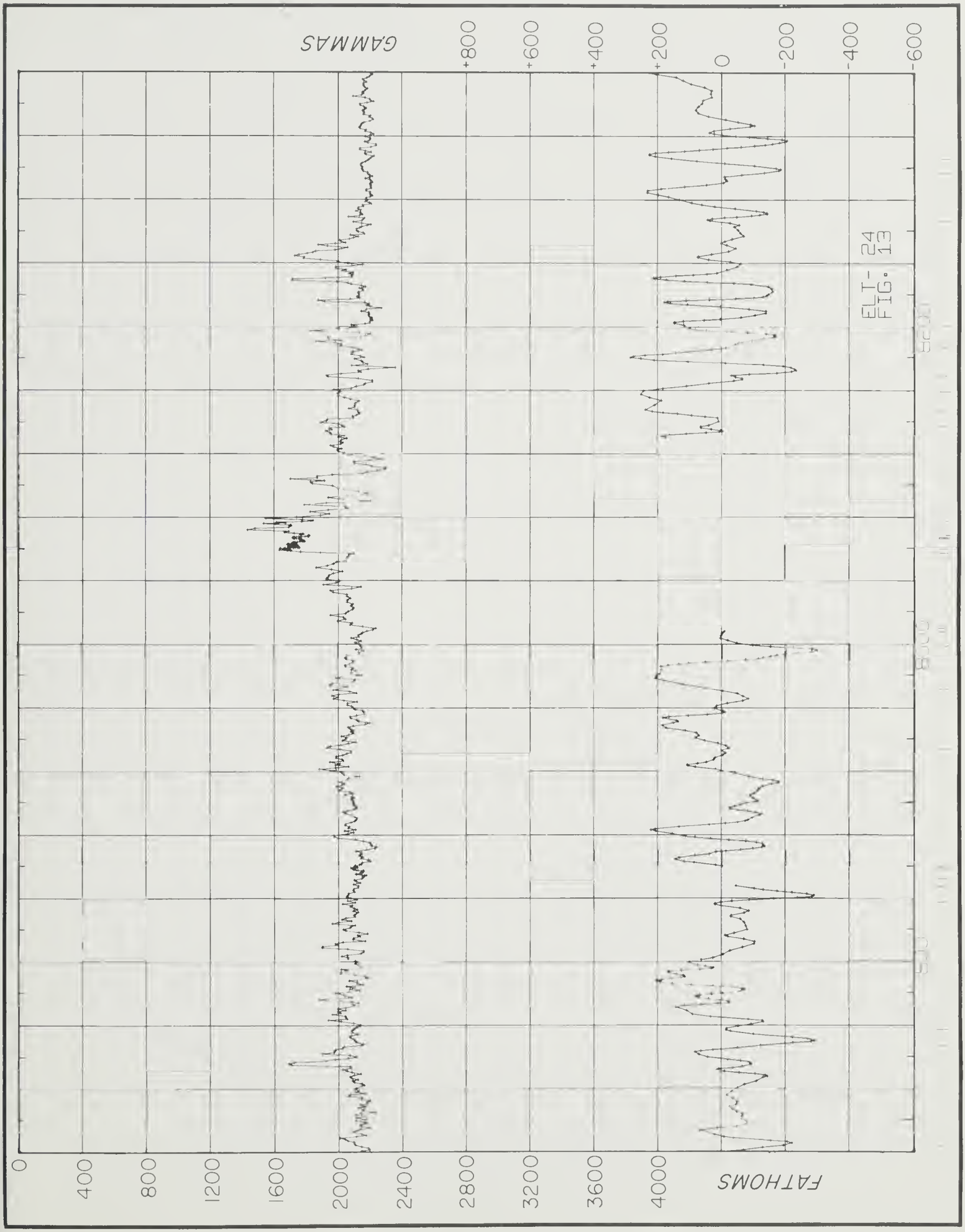

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
4600
4800
5000
ELT- 24
FIG. 8

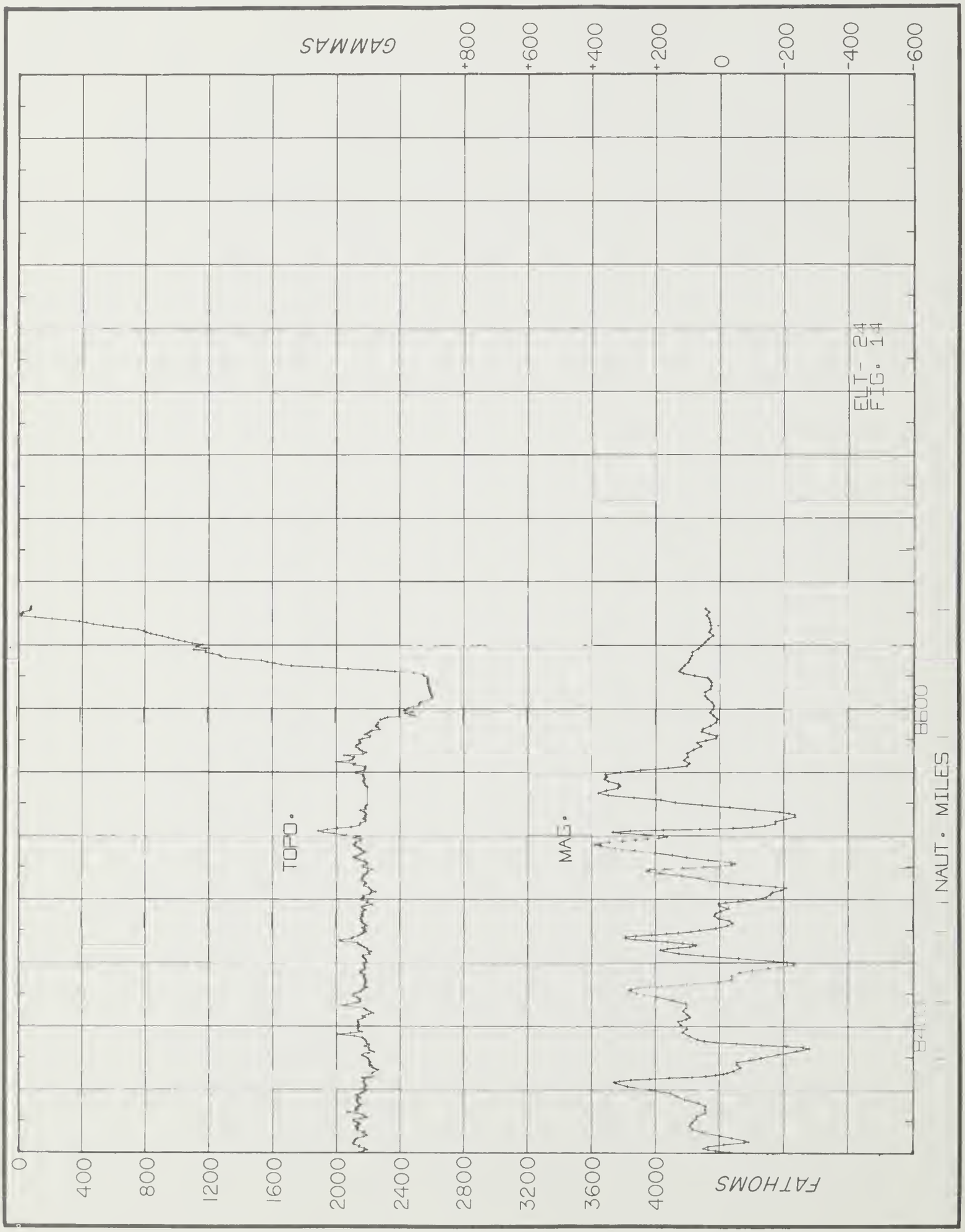

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
ELT- 24
FIG. 9
5600
5400
5200
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000

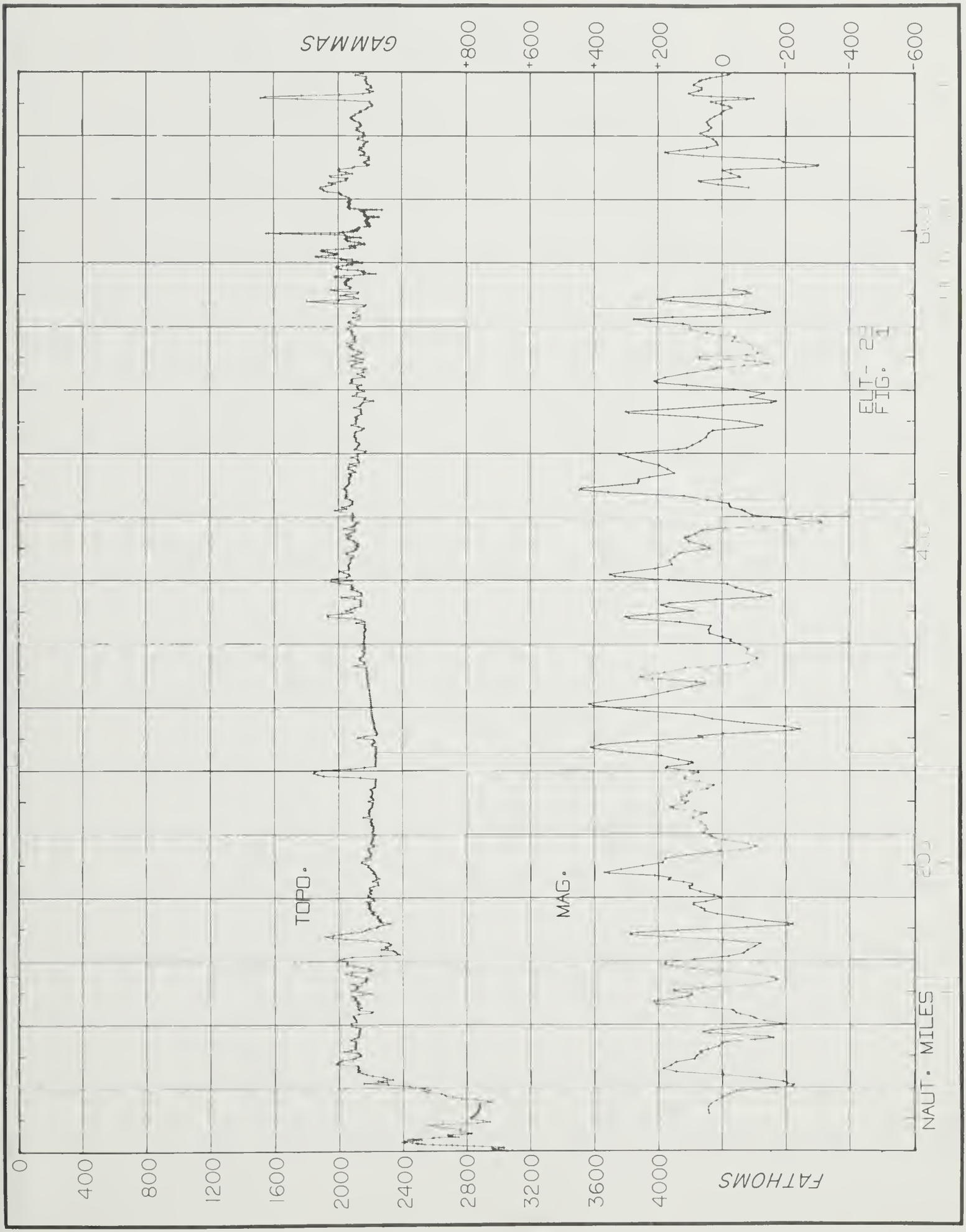

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
5800
5600
5200
6400
ELT- 24
FIG. 10

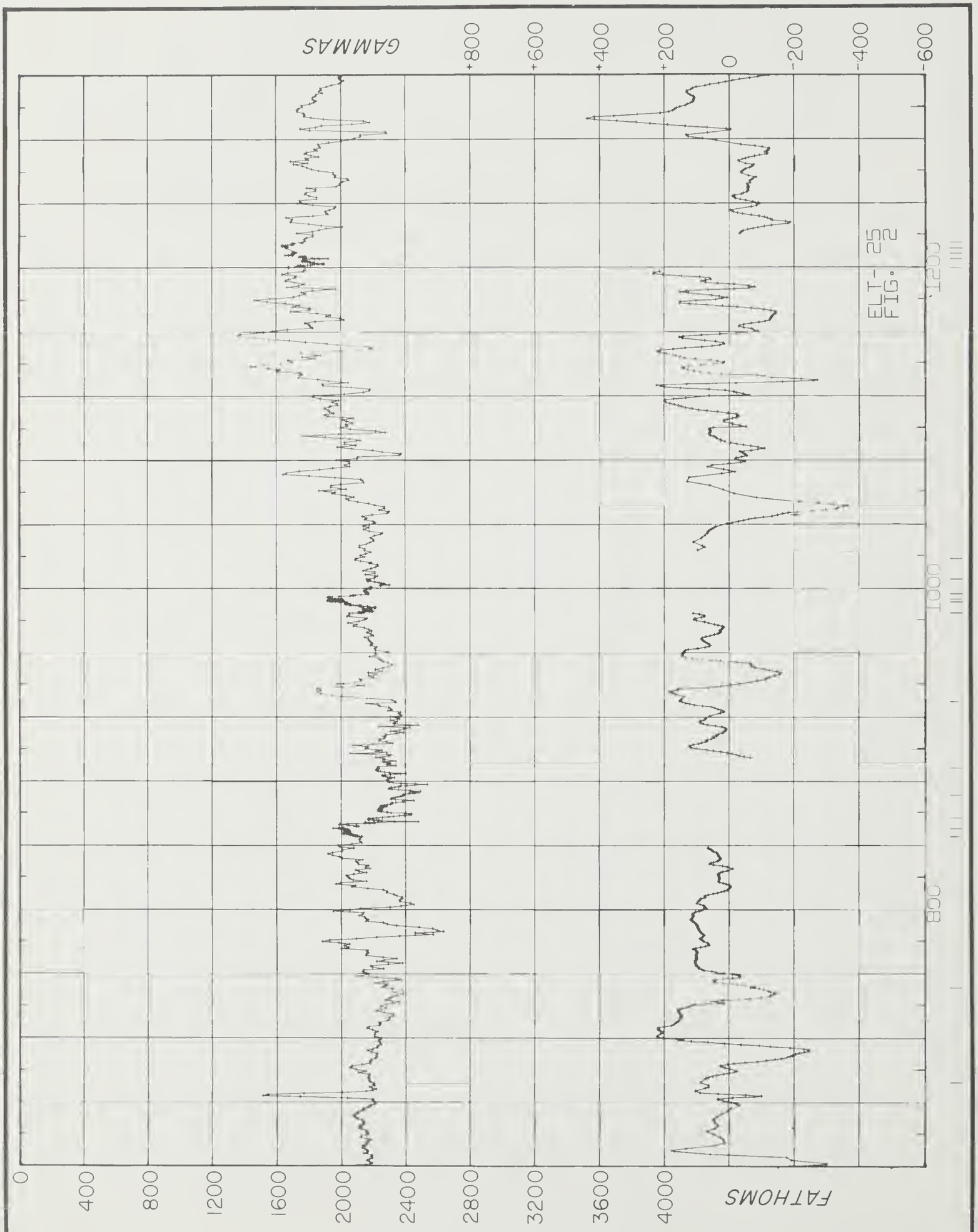

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT 24
FIG 11

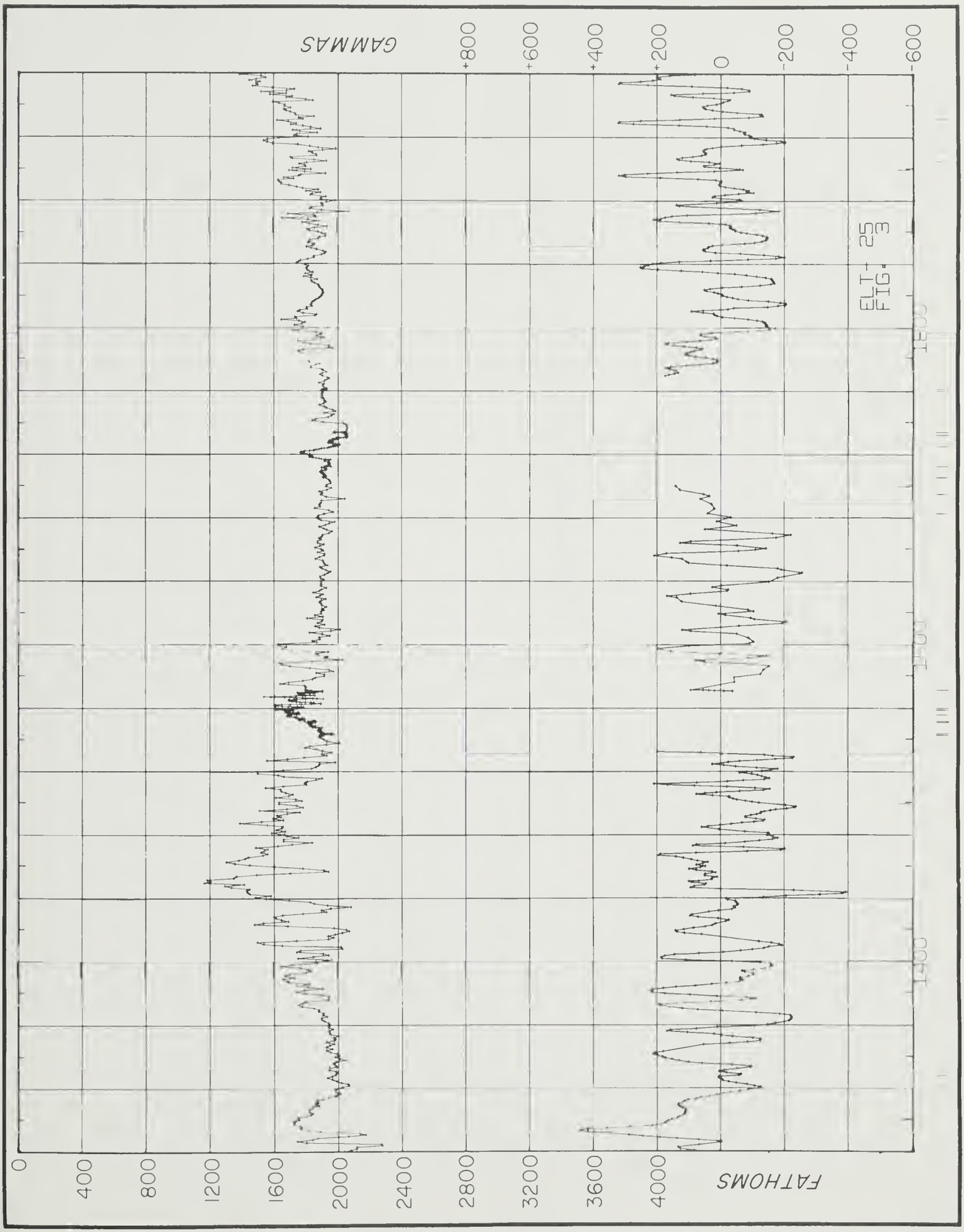

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
+800
+600
+400
+200
0
-200
-400
-600
GAMMAS
ELT- 24
FIG. 12

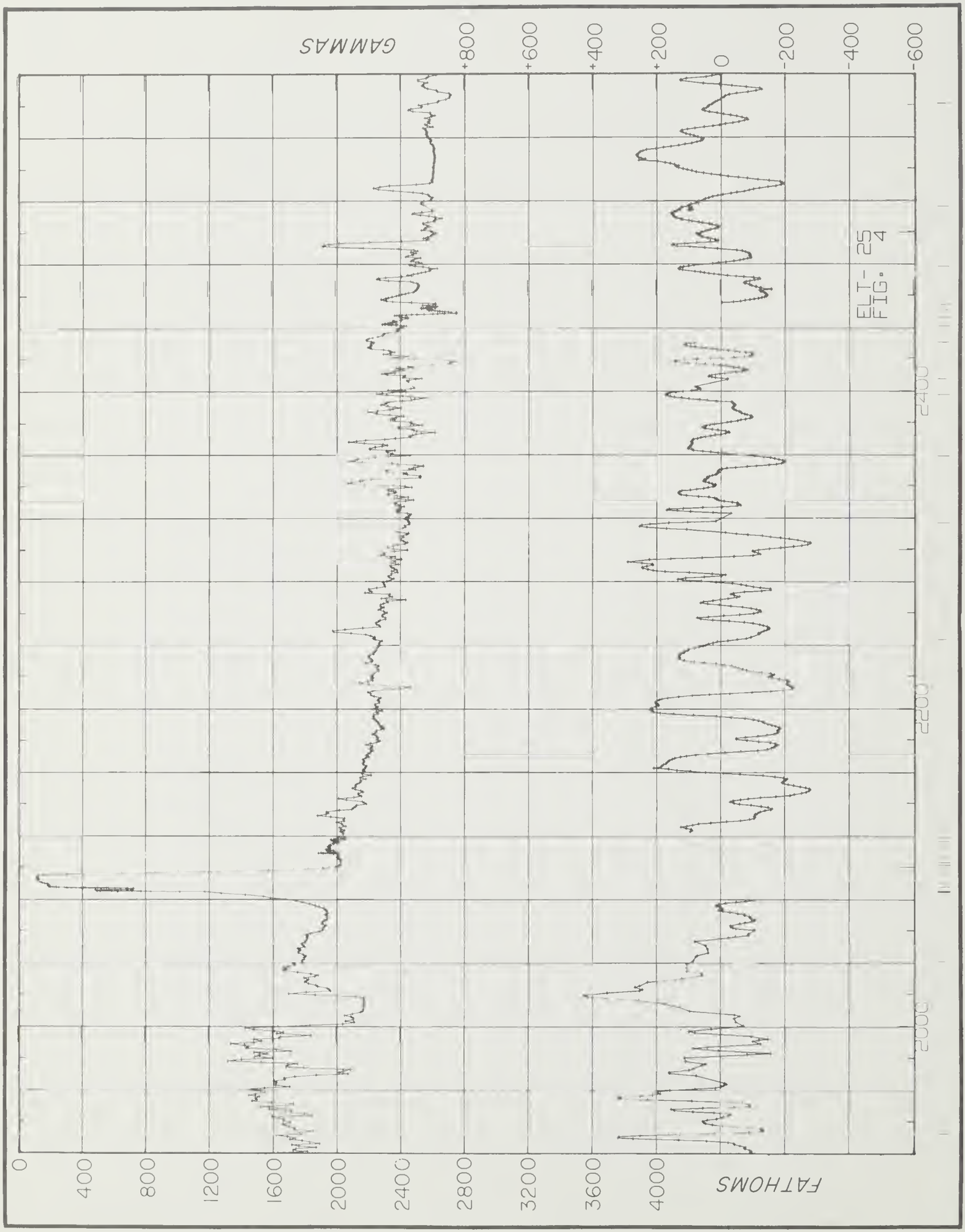

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 24
FIG. 13

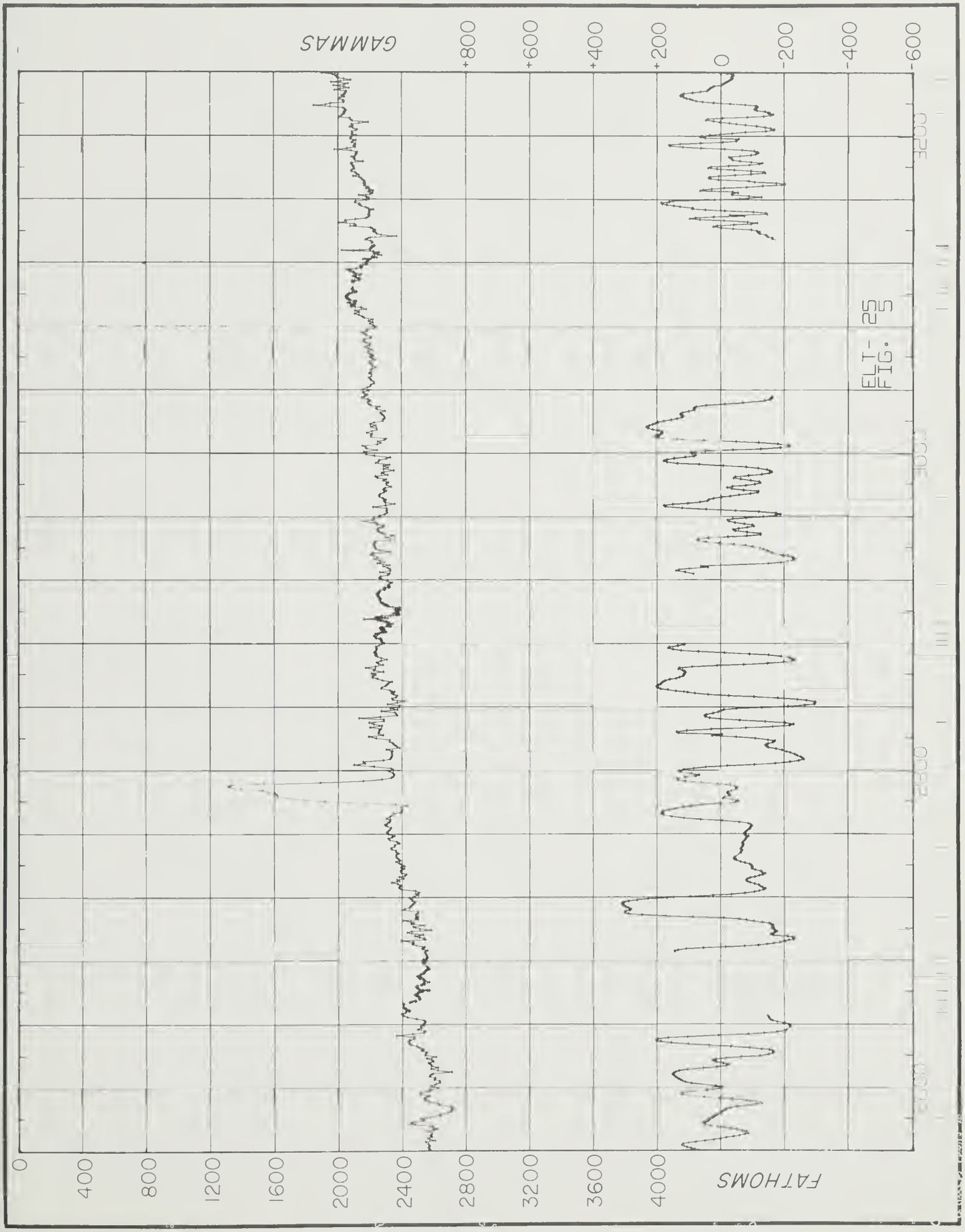

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
ELT- 24
FIG. 14
TOPO.
MAG.
8600
NAUT. MILES
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000

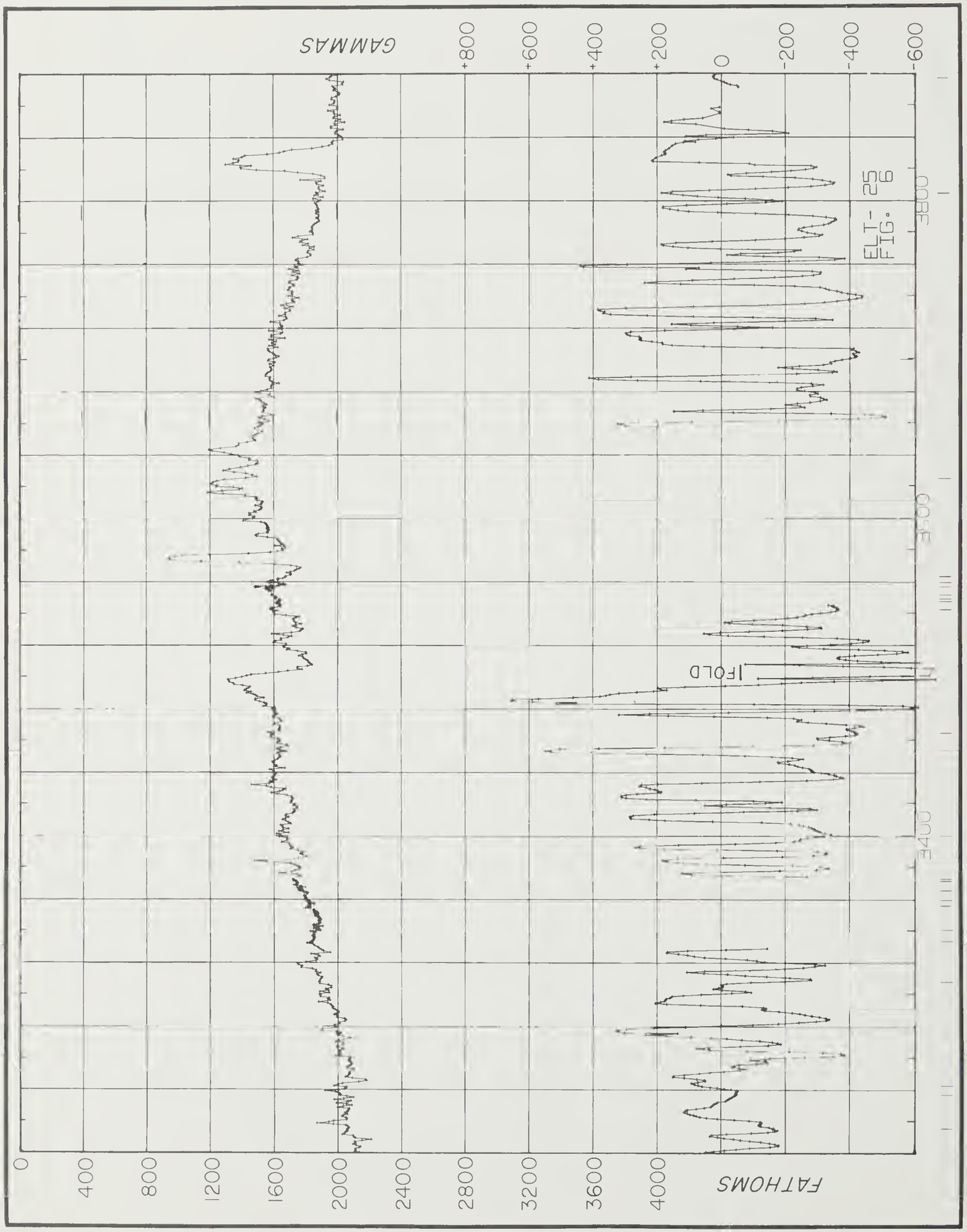

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
TOPO.
MAG.
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
NAUT. MILES
ELT- 22
FIG. 1

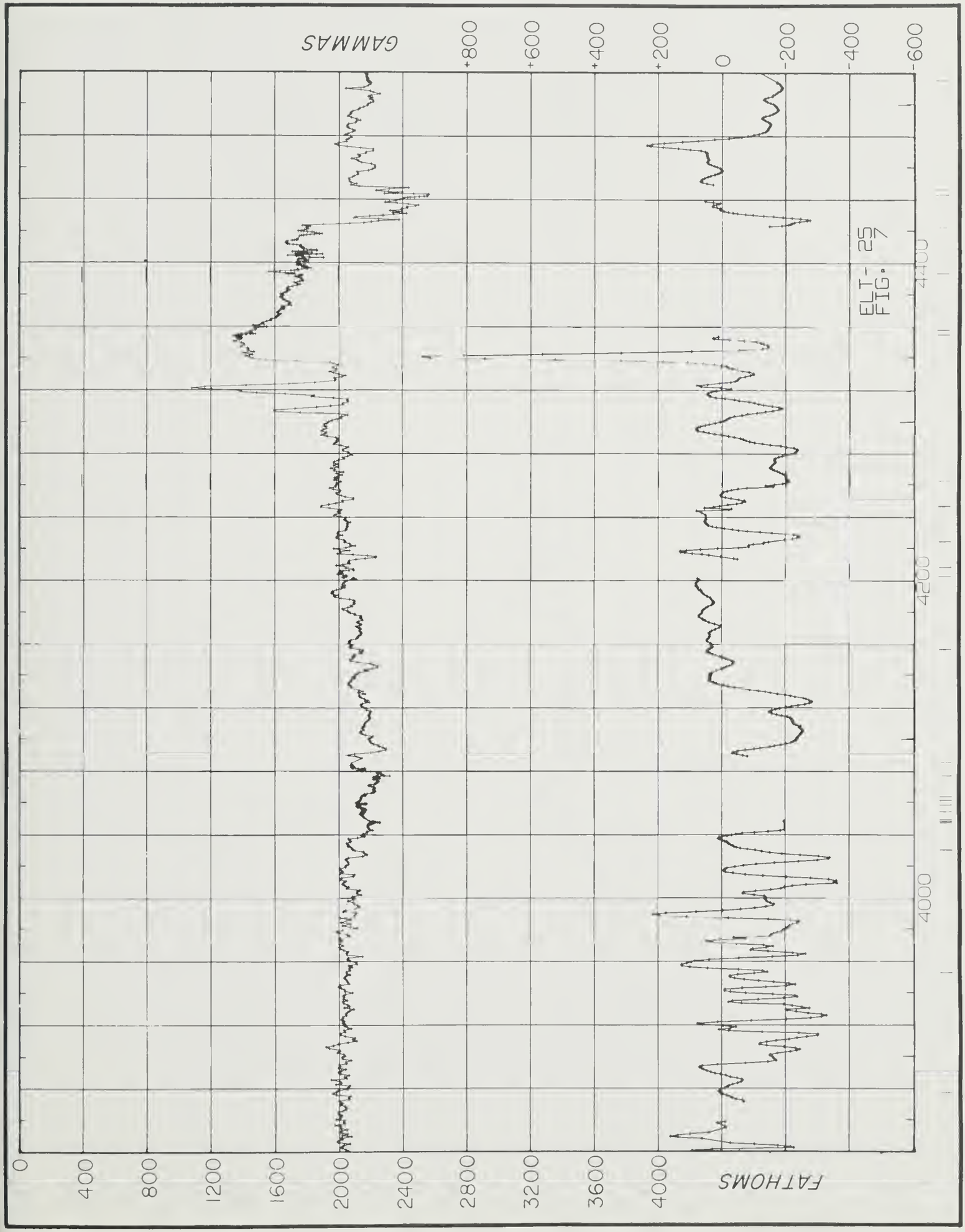

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 25
FIG. 22
1200
1000
800

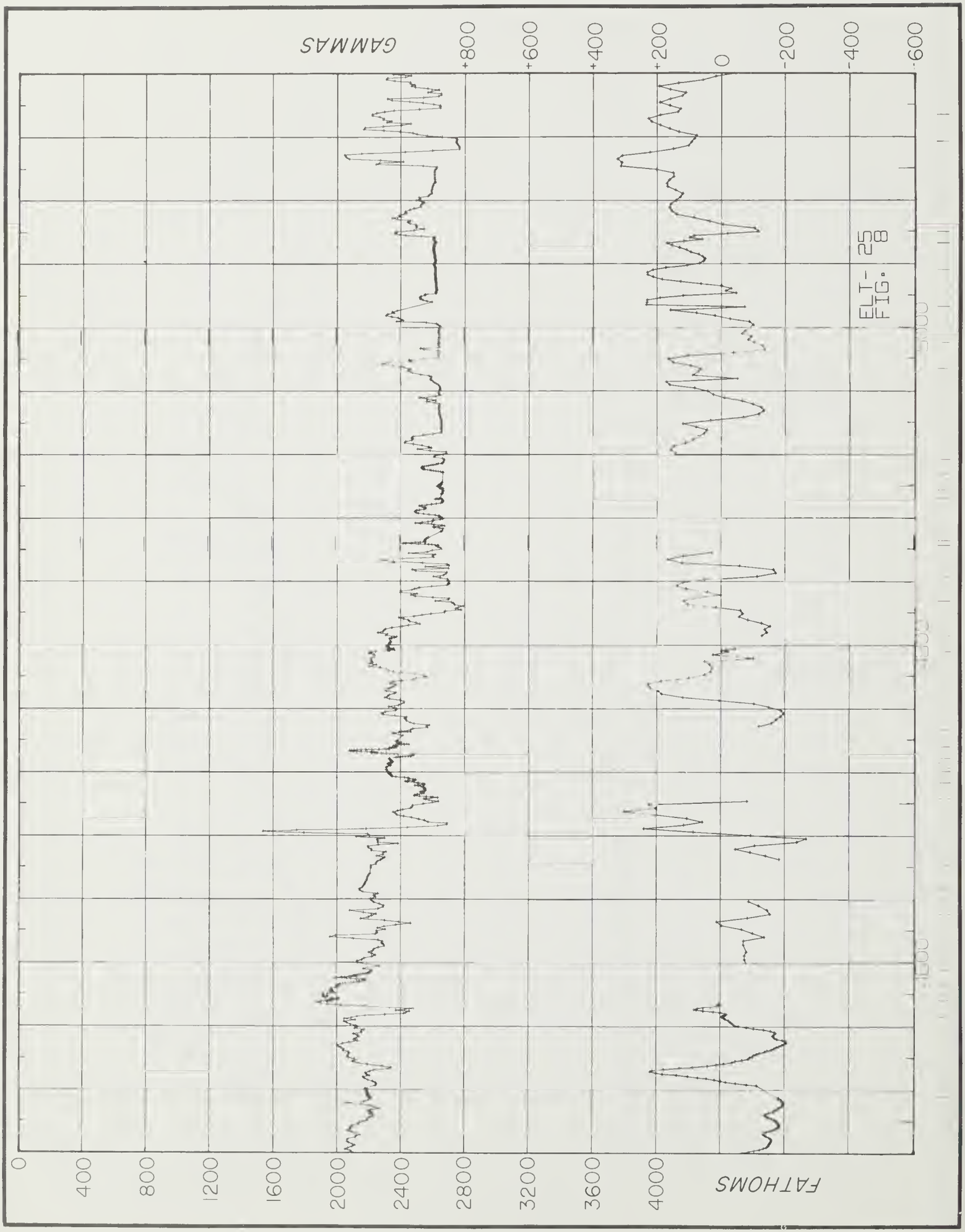

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 25
FIG. 3

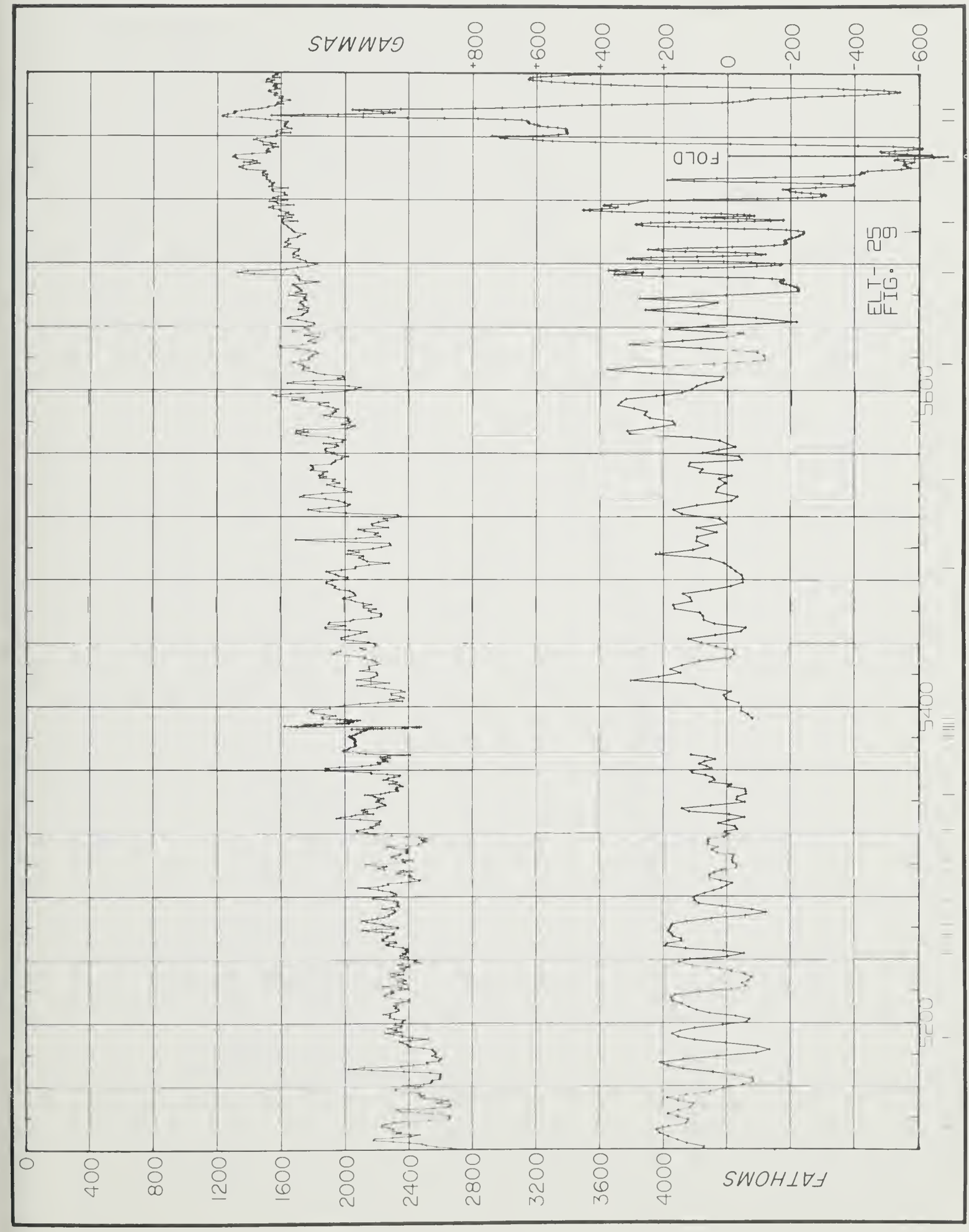

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 25
FIG. 4

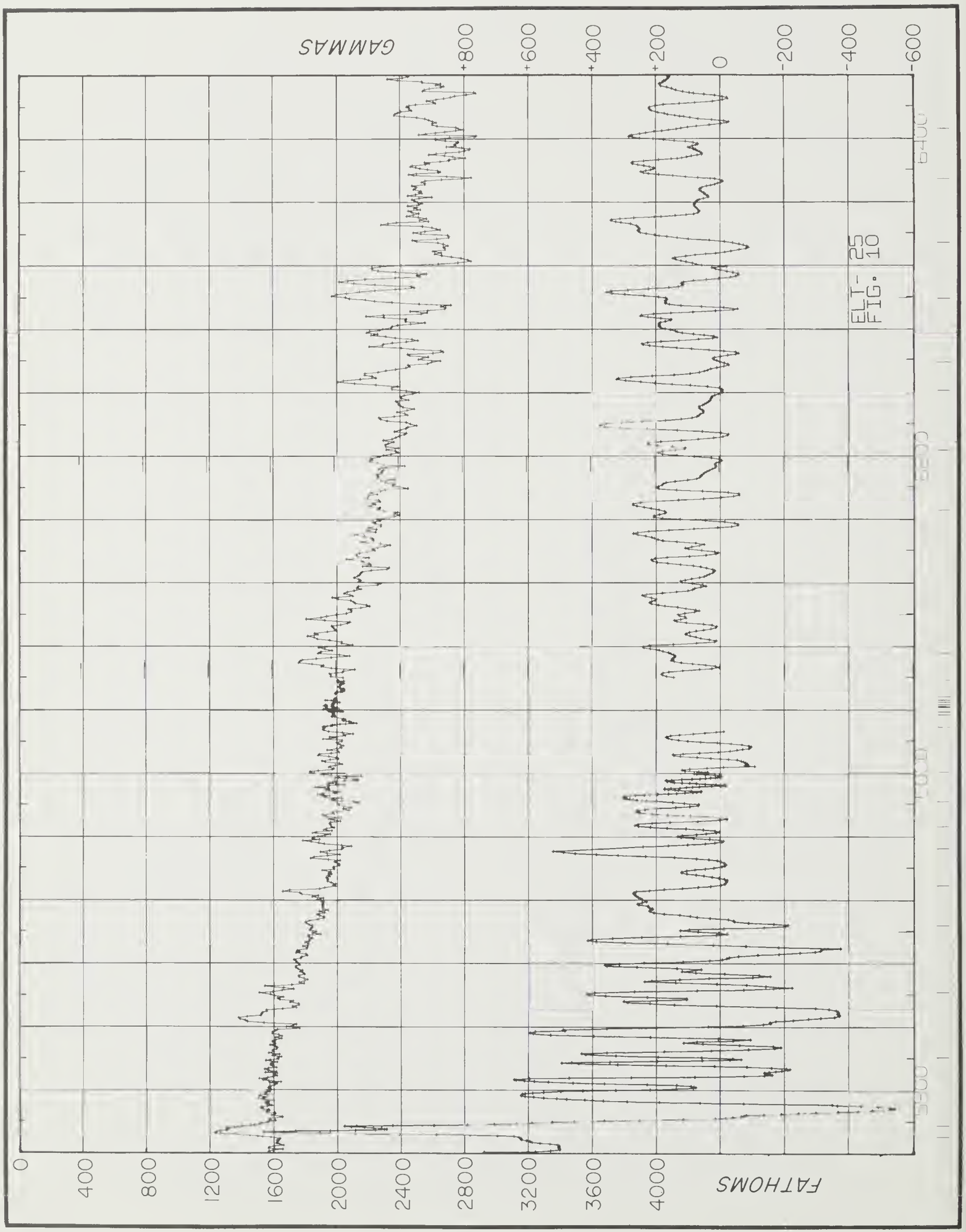

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELI- 25
FIG. 5

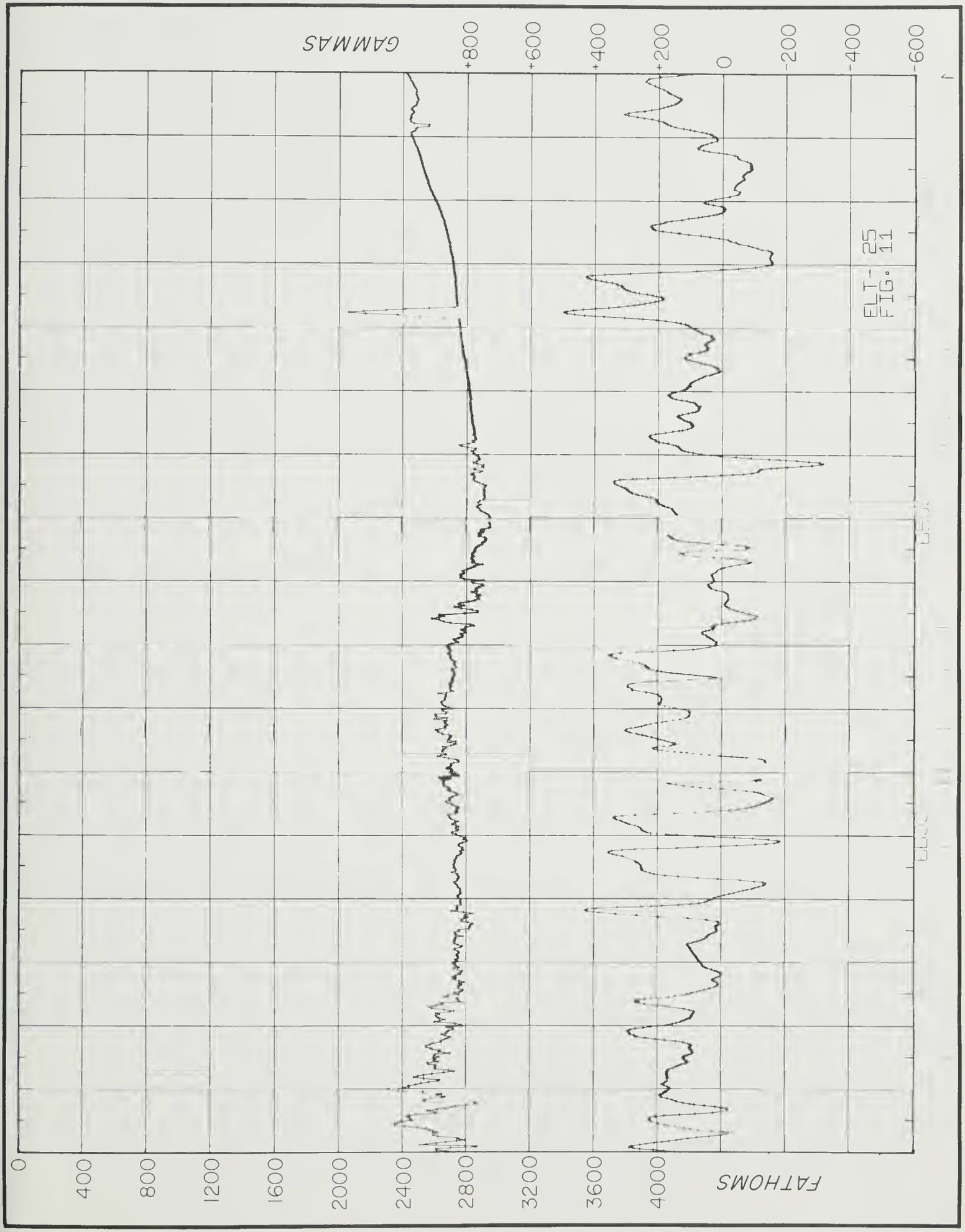

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
3800
3600
3400
IFOLD
ELT- 25
FIG. 6

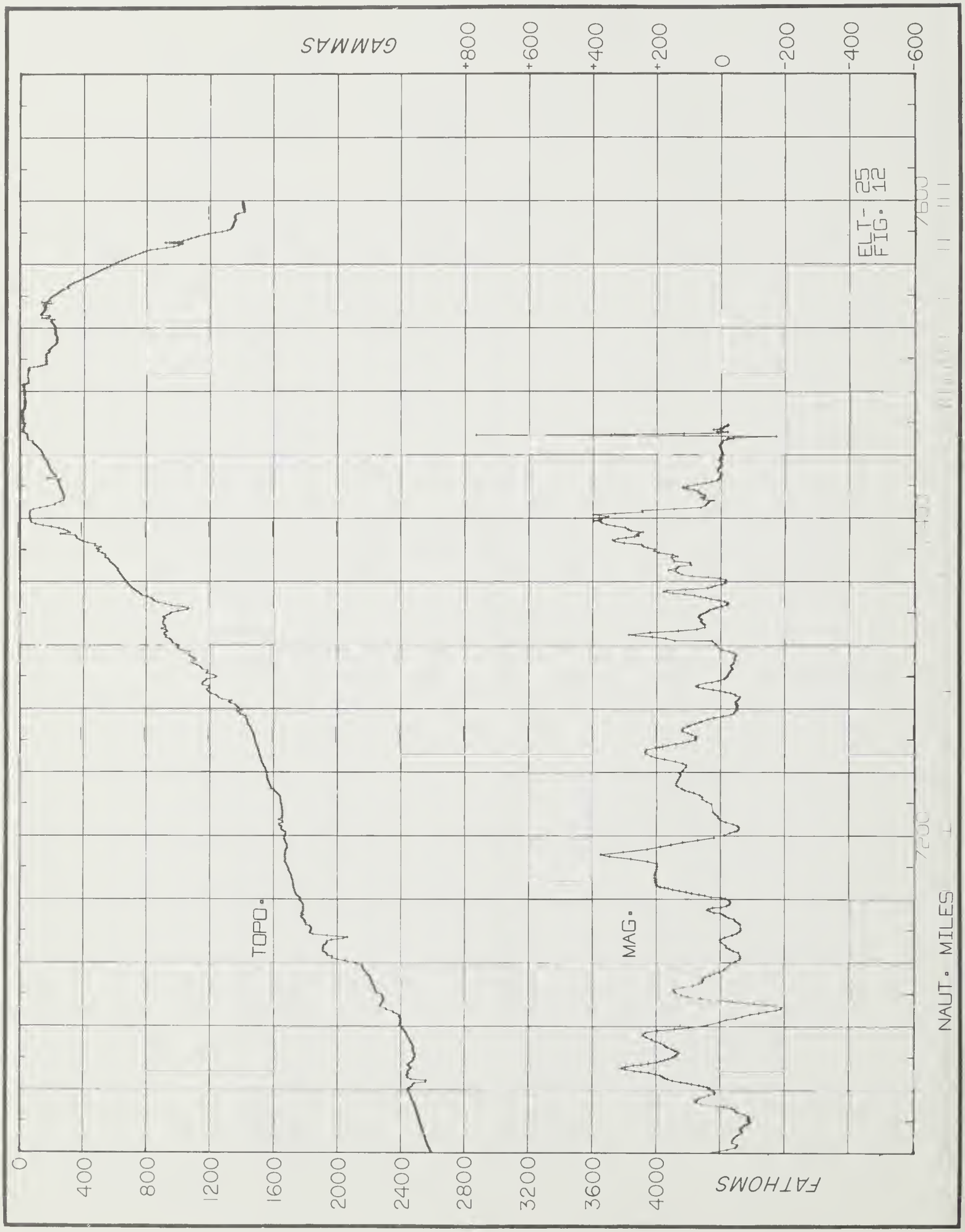

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
4000
4200
4400
ELT- 25
FIG. 7

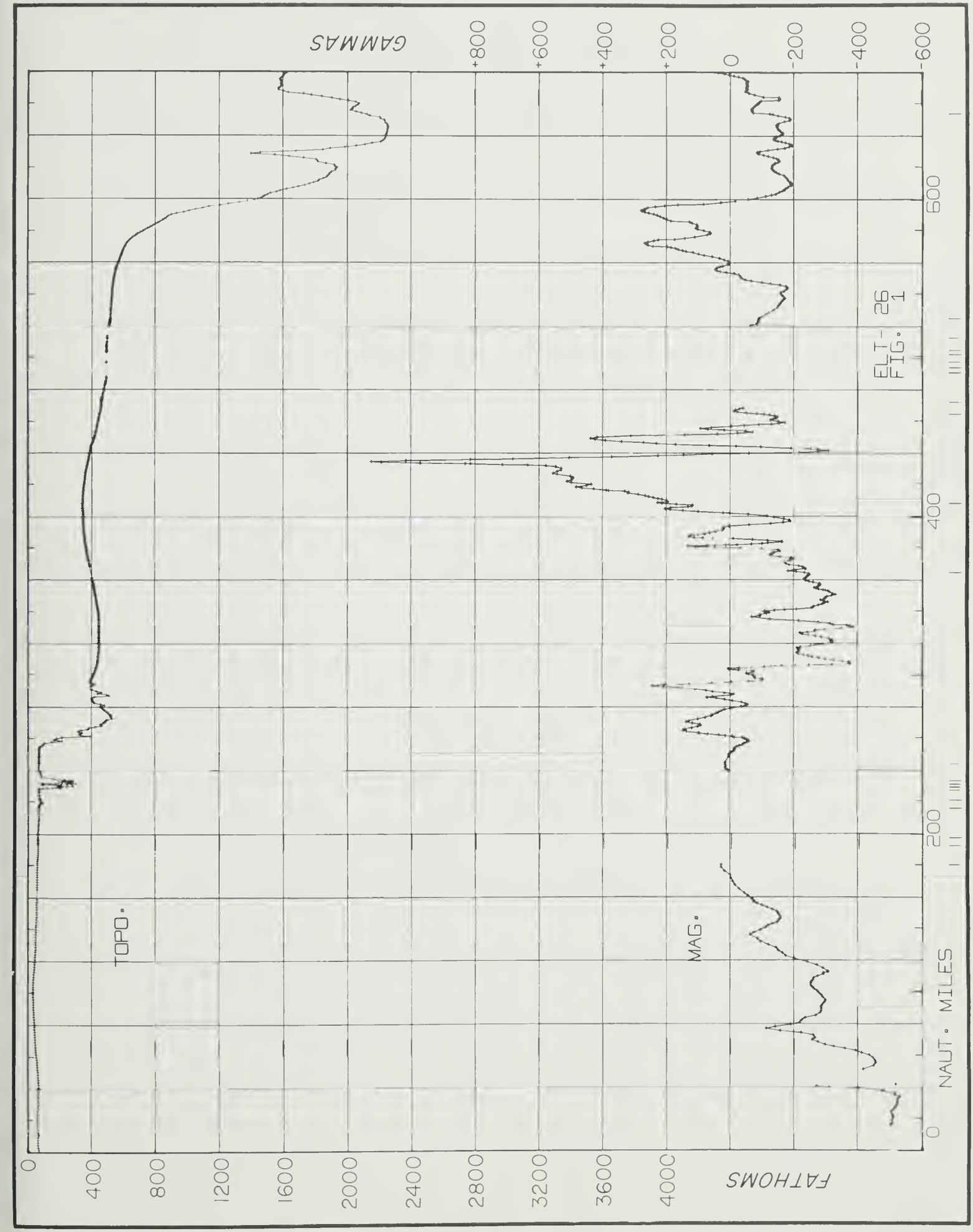

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 25
FIG. 8

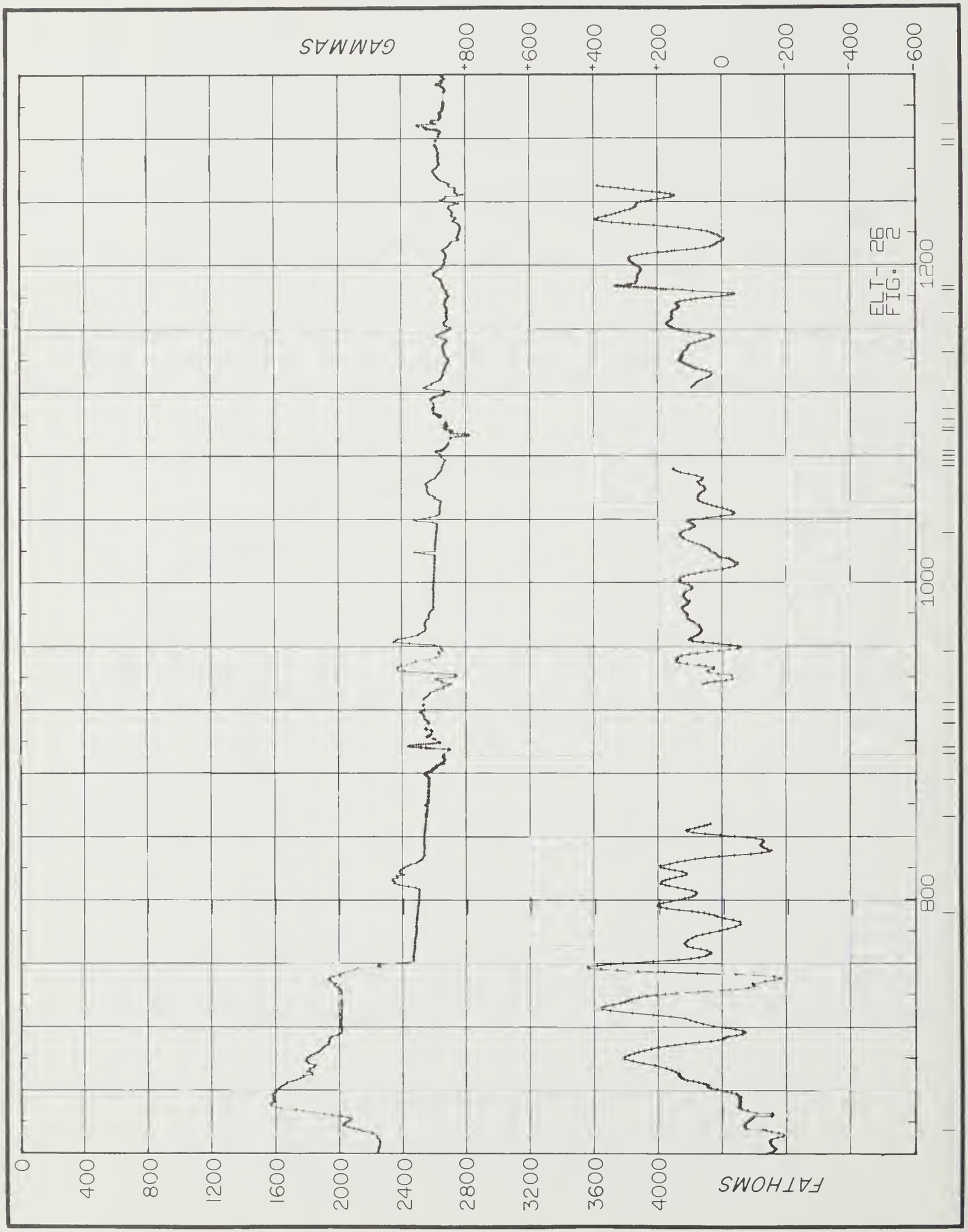

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FOLD
ELT- 25
FIG. 9
5600
5400
5200
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000

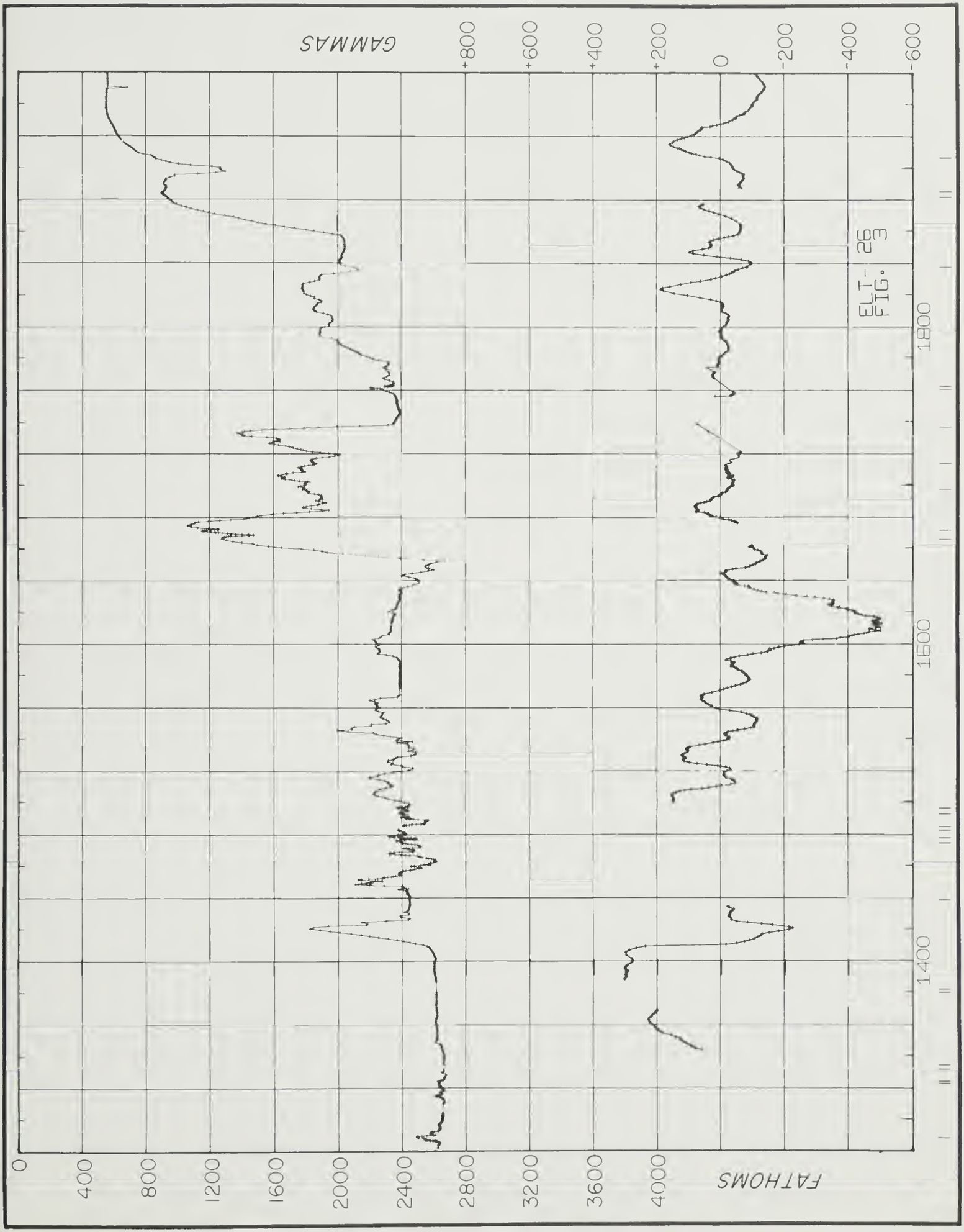

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 25
FIG. 10

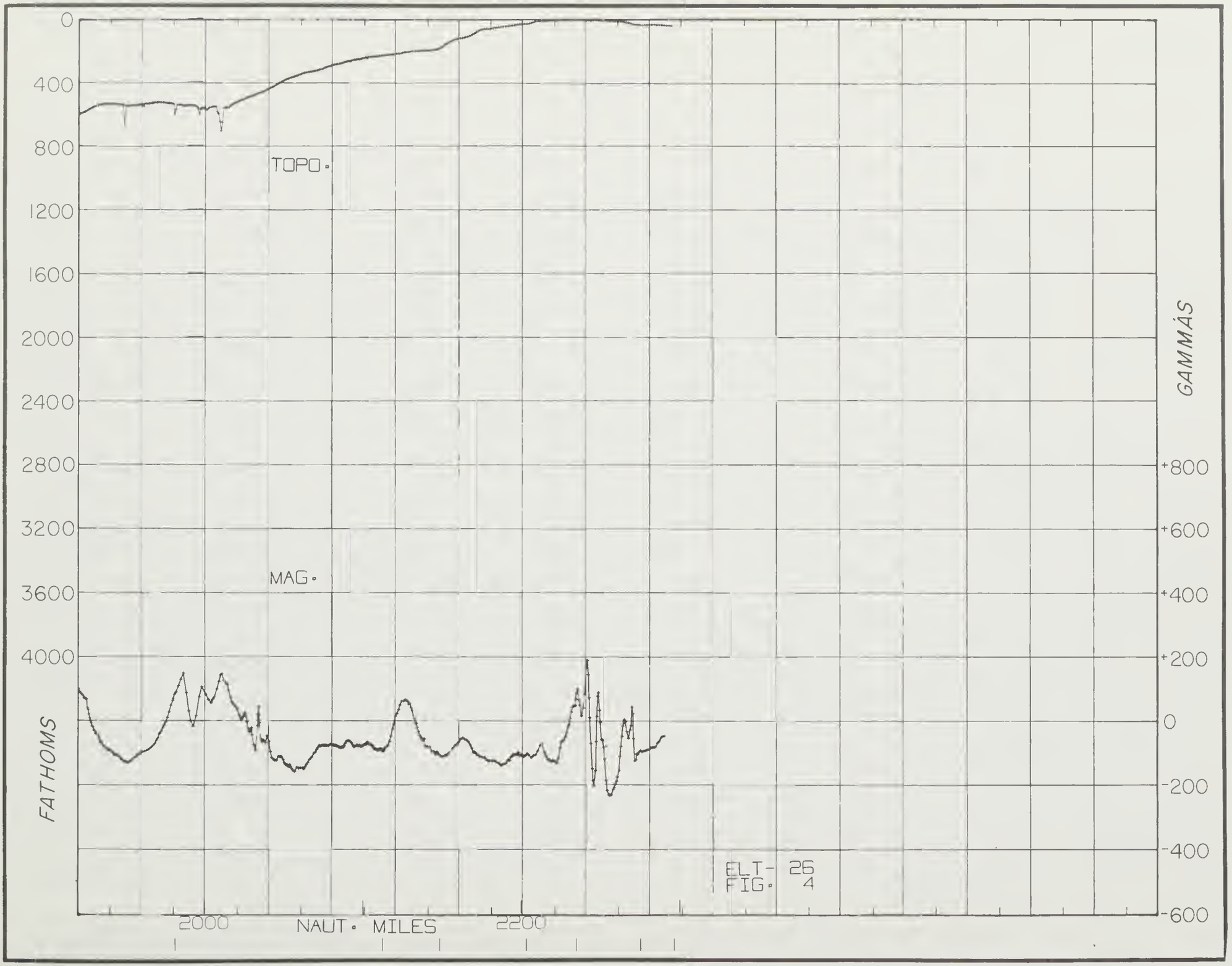

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 25
FIG. 11

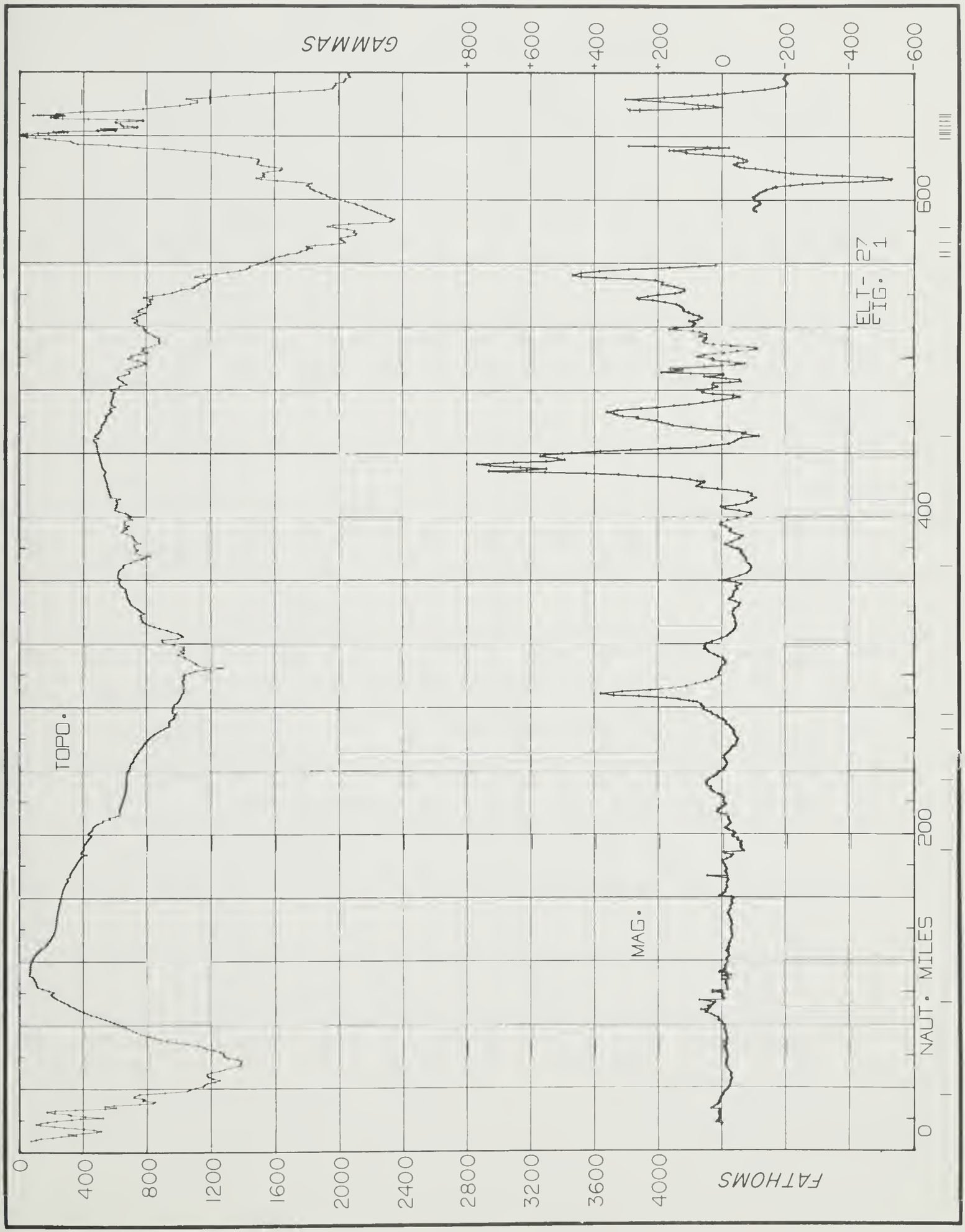

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
ELT- 25
FIG. 12
TOPO.
MAG.
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
NAUT. MILES

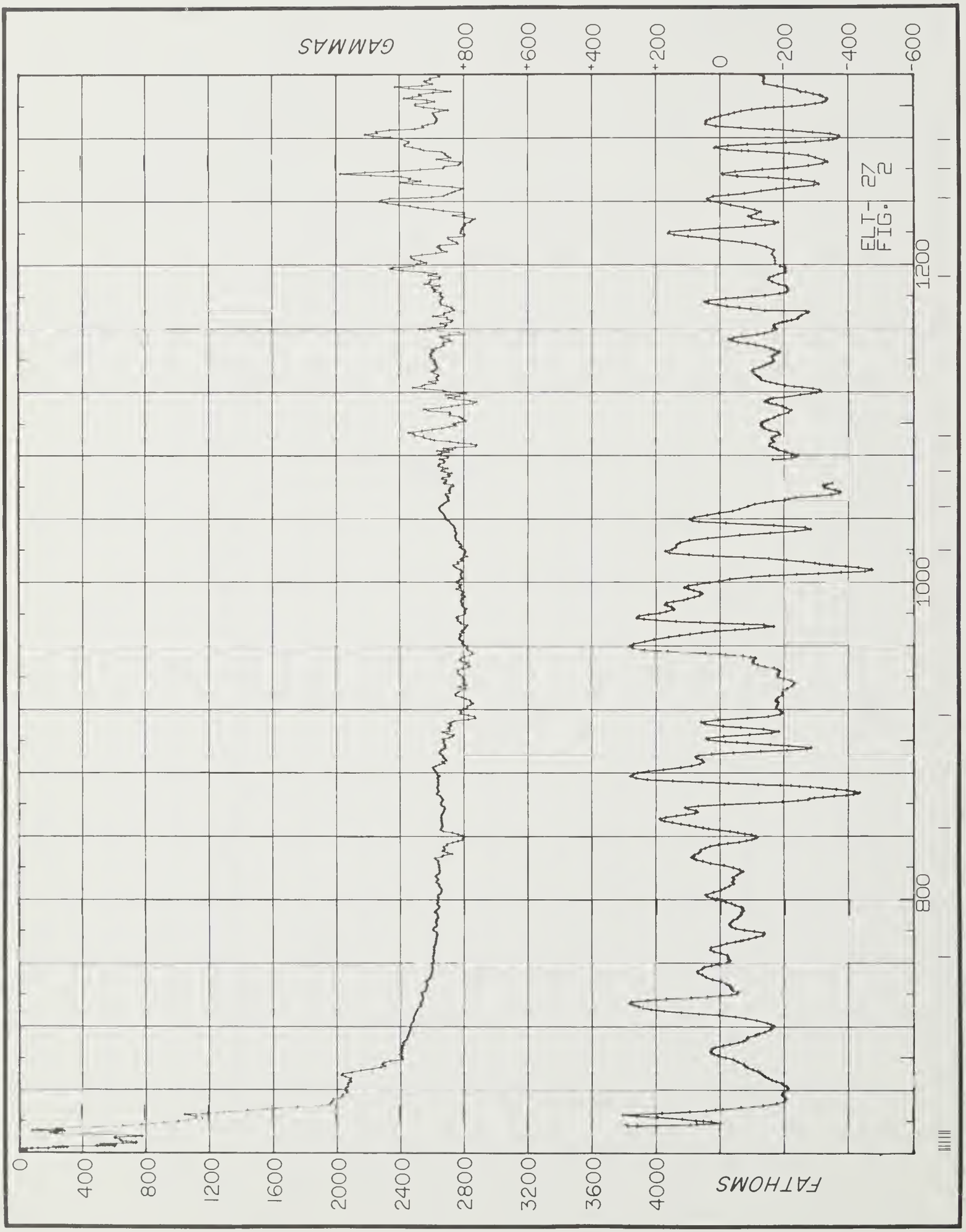

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
ELT- 26
FIG. 1
600
400
200
0
NAUT. MILES
TOPO.
MAG.
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000

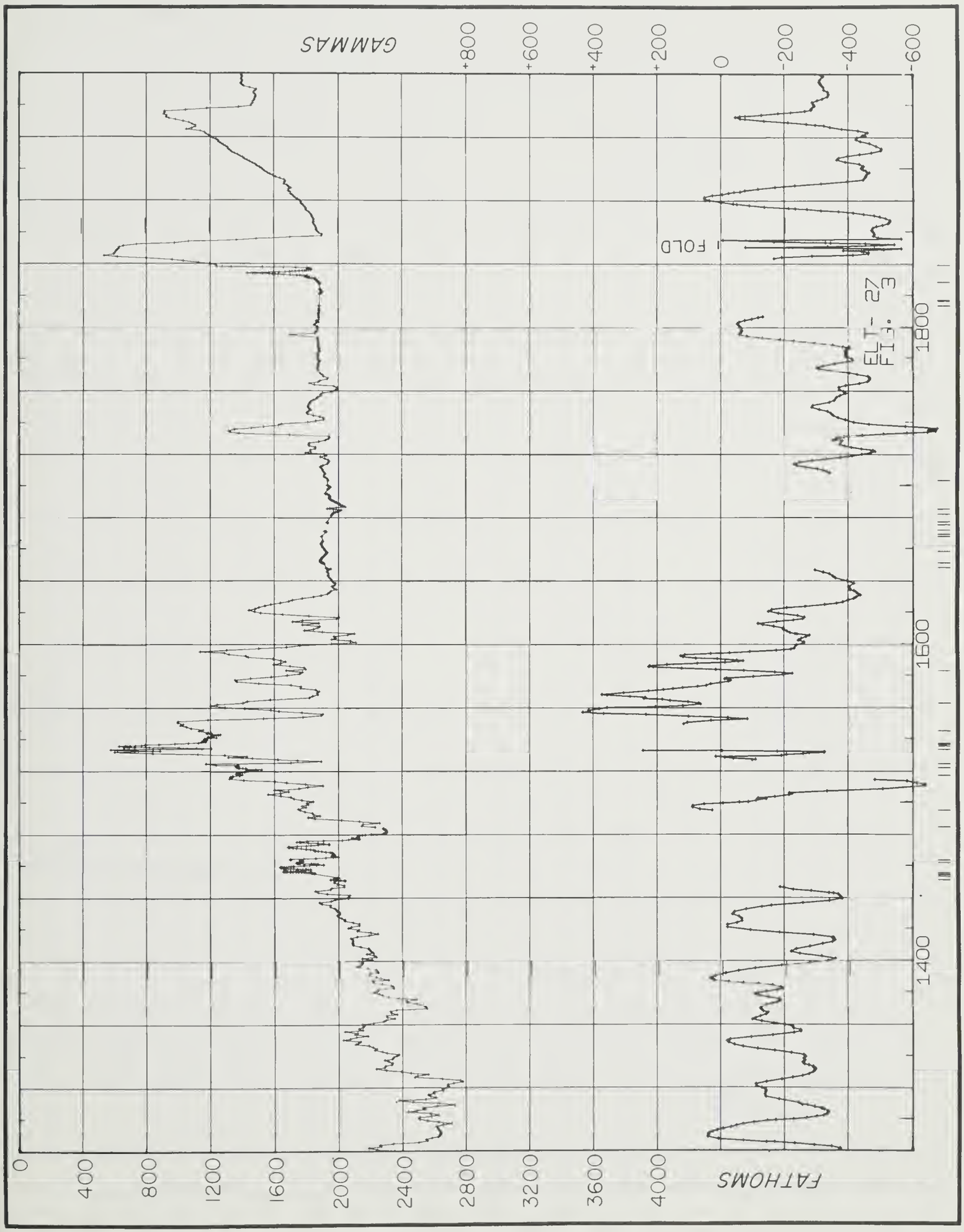

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
800
1000
1200
ELT- 26
FIG. 2

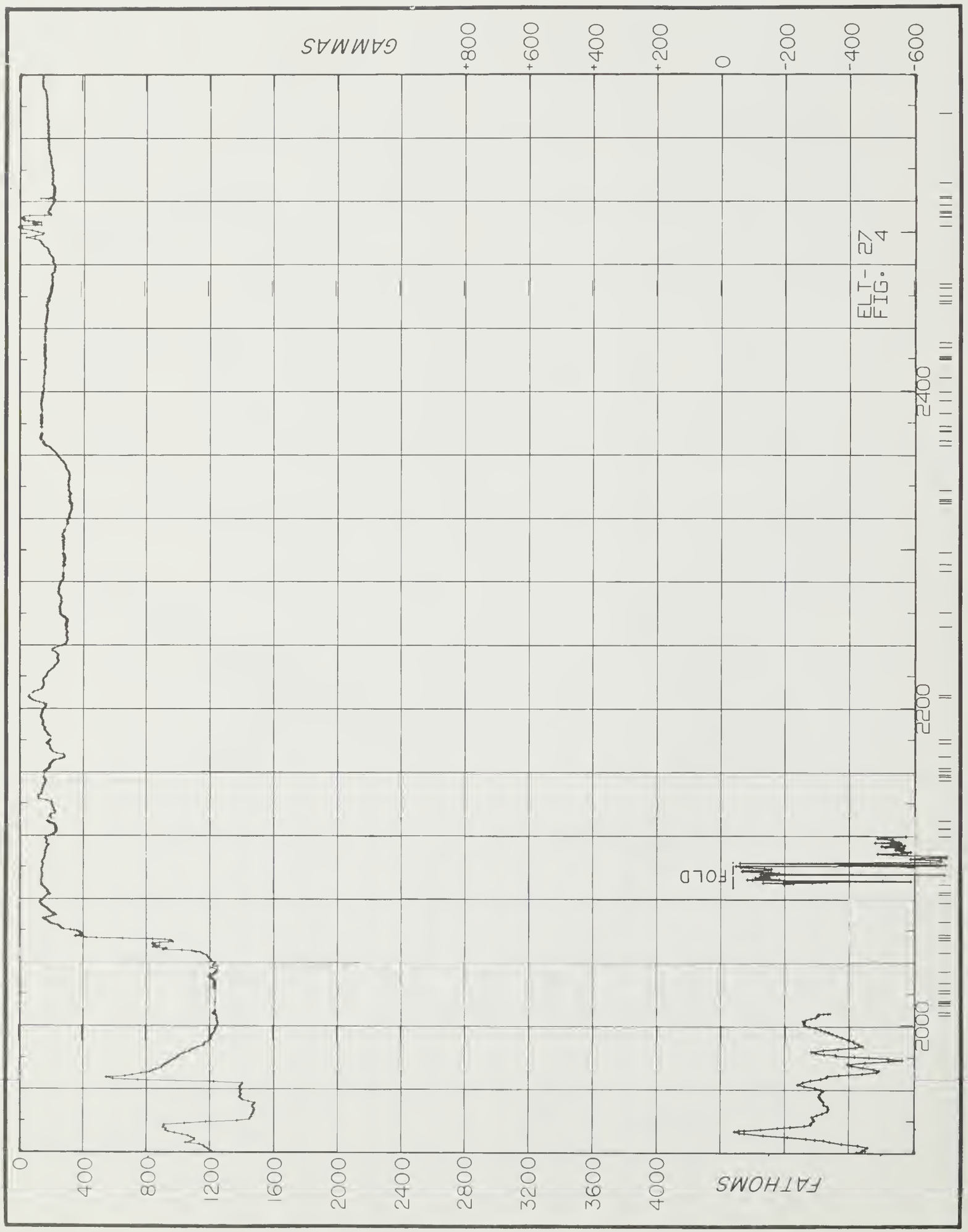

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
1400
1600
1800
ELT- 26
FIG. 3

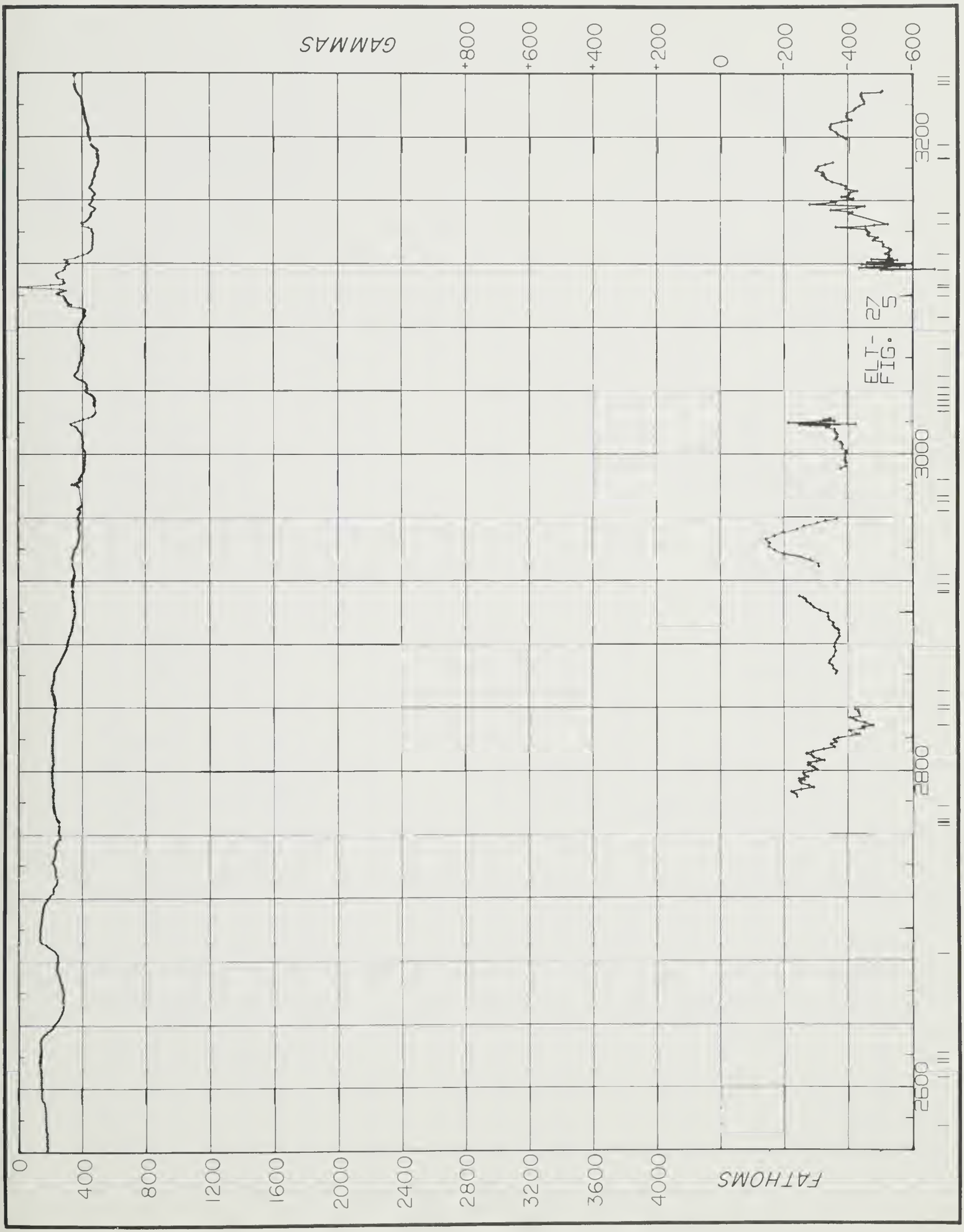

0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
TOPO.
MAG.
+800
+600
+400
+200
0
-200
-400
-600
GAMMAS
2000
NAUT. MILES
2200
ELT- 26
FIG. 4

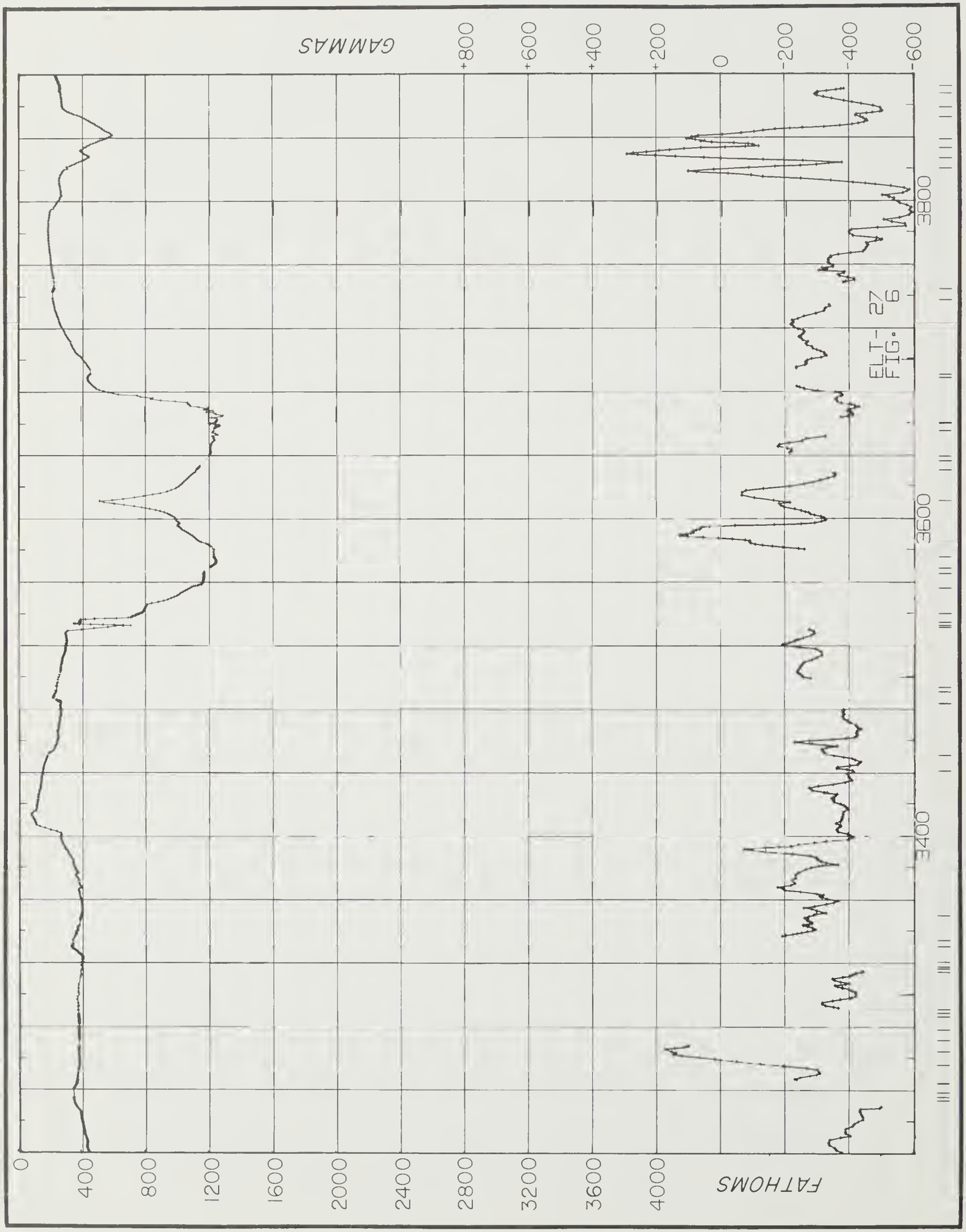

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
NAUT. MILES
0
200
400
600
TOPO.
MAG.
ELI- 27
FIG. 1

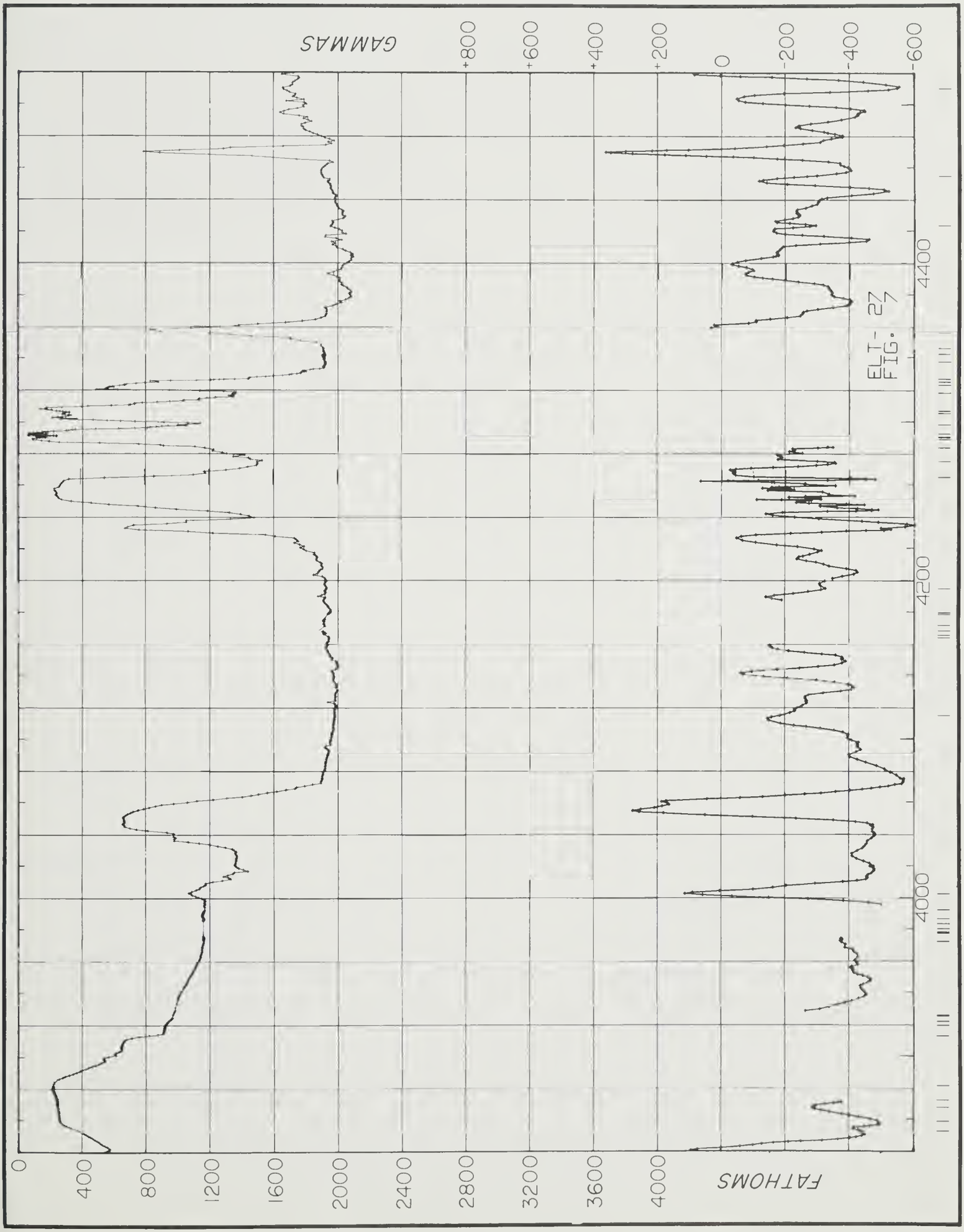

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
800
1000
1200
ELT-
FIG.
27
2

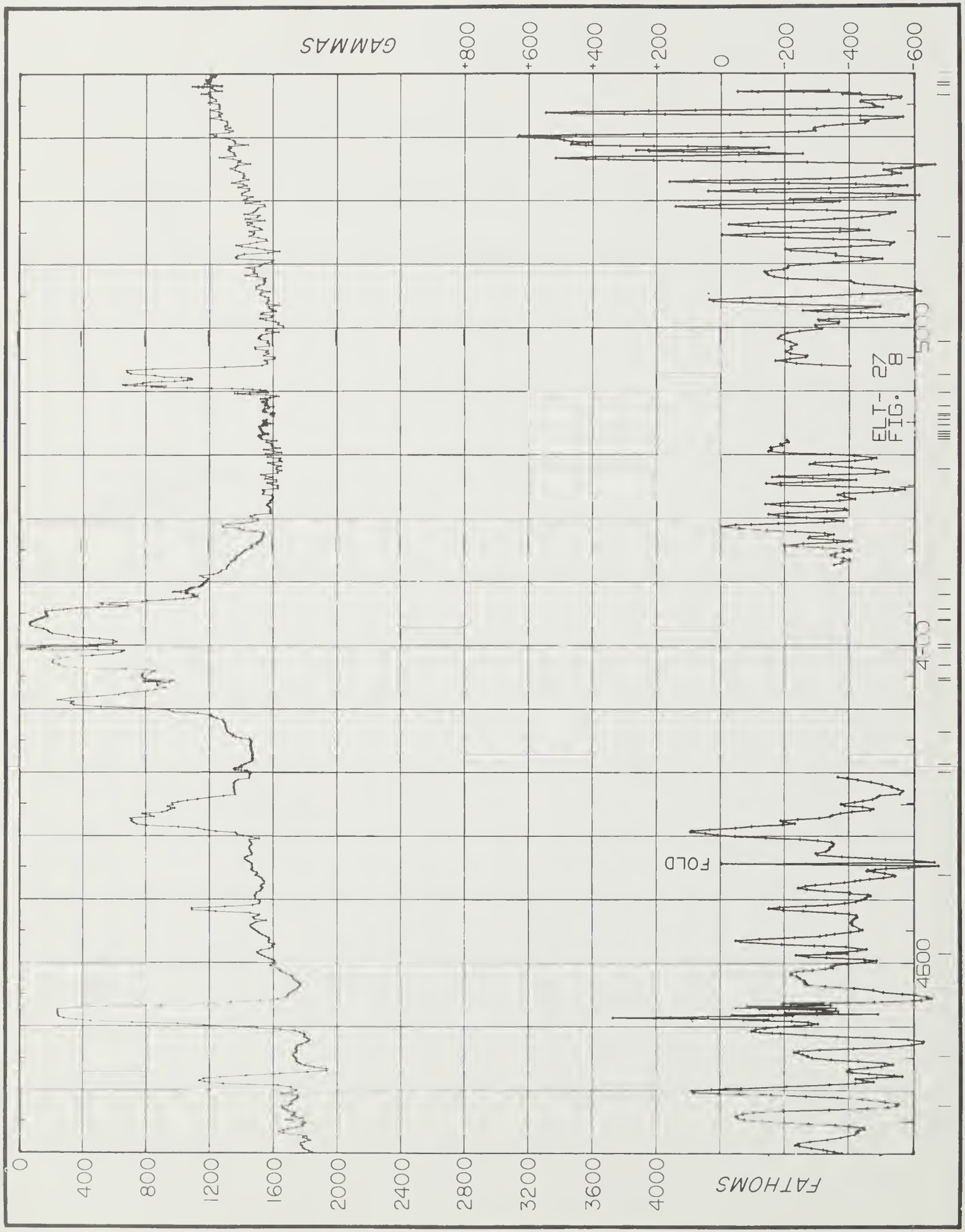

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FOLD
ELT- 27
FIG. 3
1800
1600
1400
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000

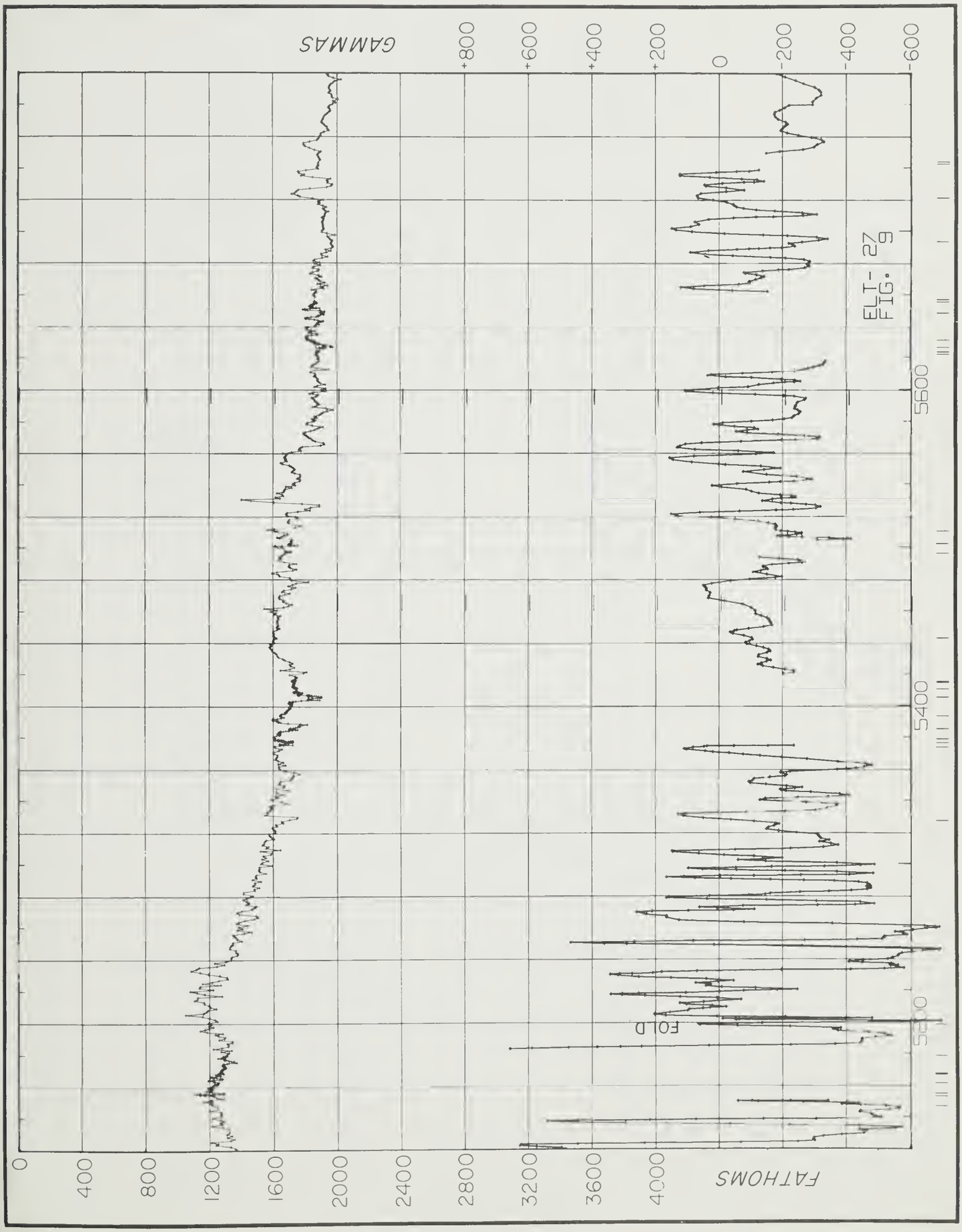

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
ELT- 27
FIG. 4
2400
2200
2000
FOLD
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000

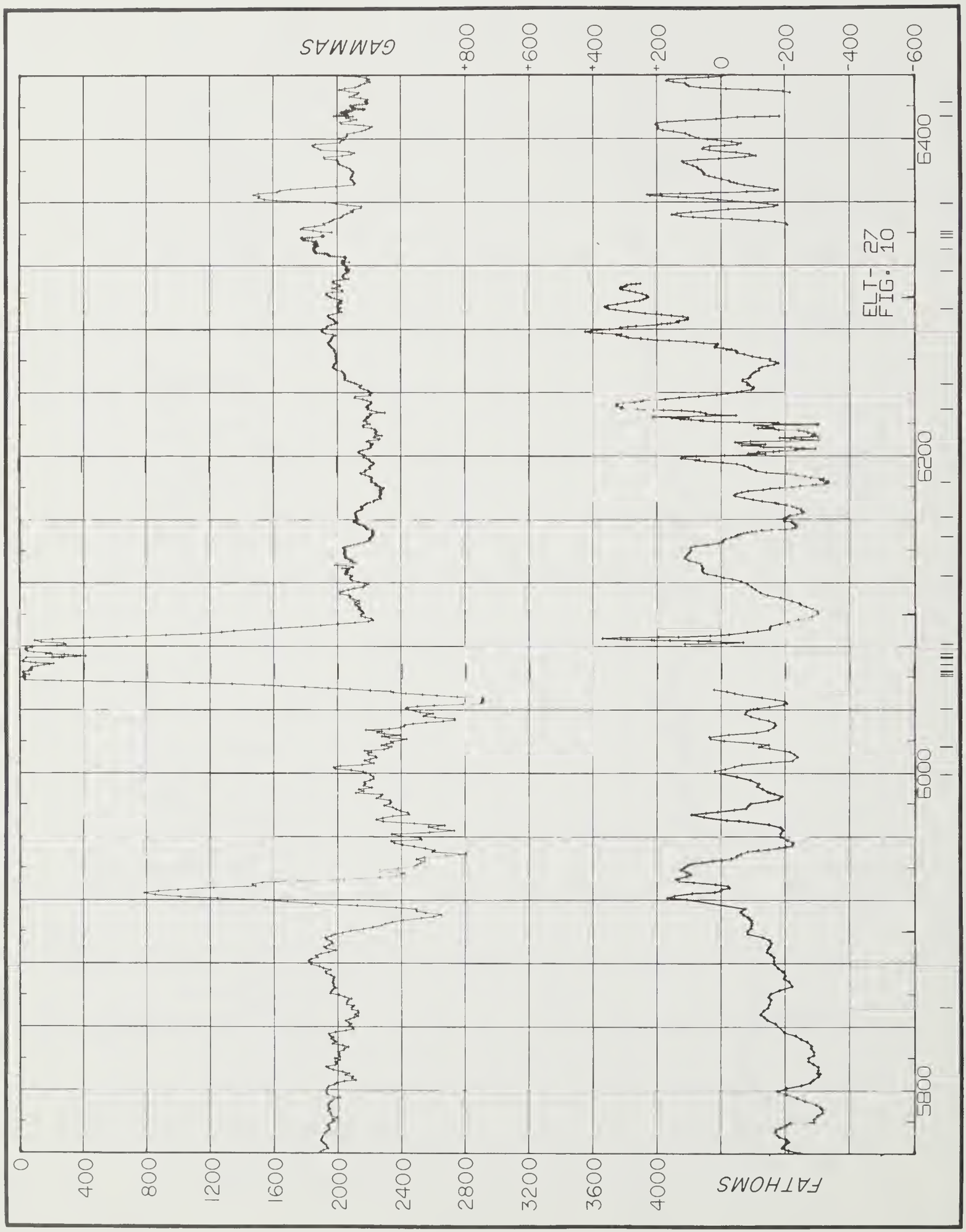

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
2600
2800
3000
3200
ELI-
FIG.
27
5

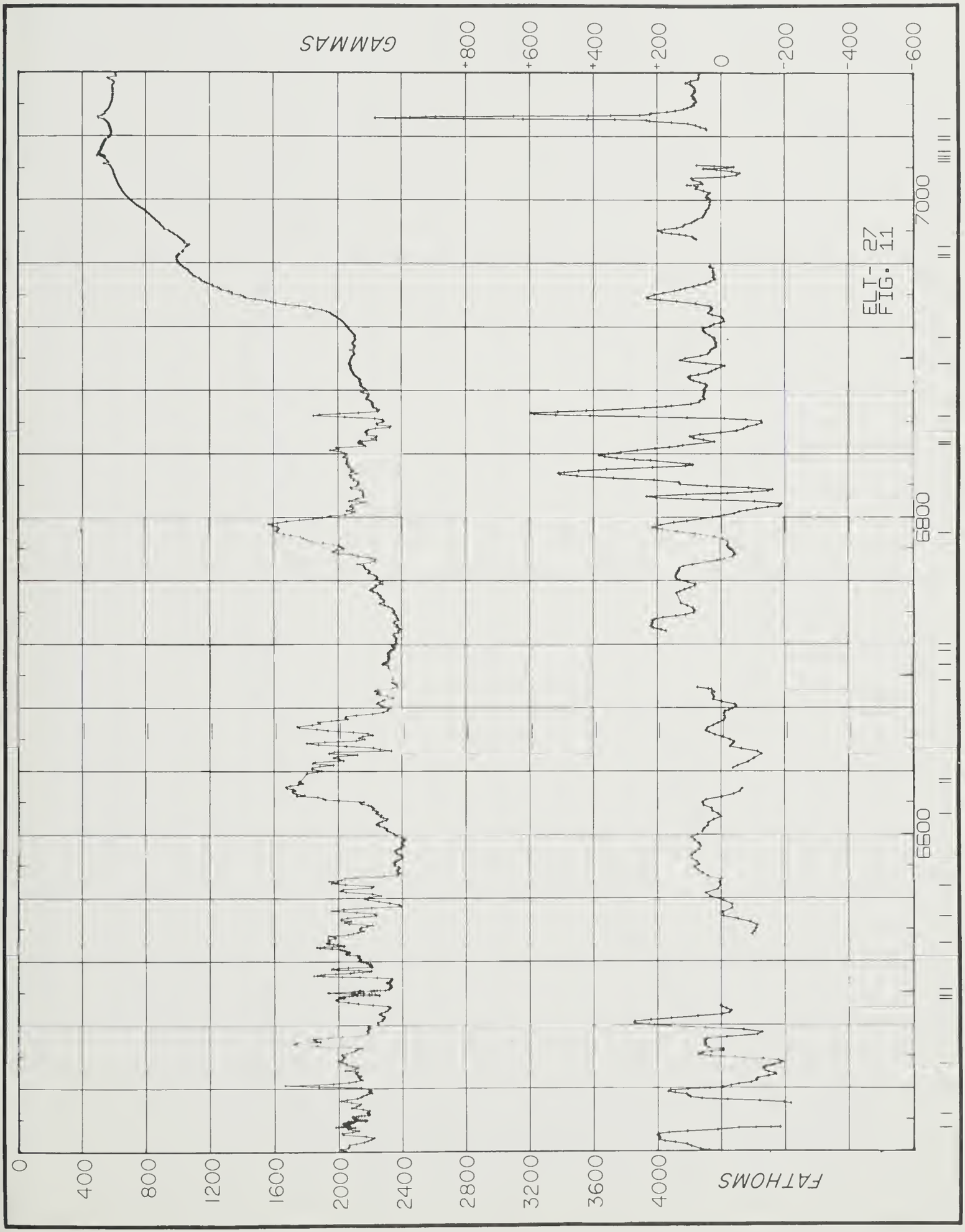

GAMMAS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
+800
+600
+400
+200
0
-200
-400
-600
3400
3600
3800
ELT-27
FIG. 6

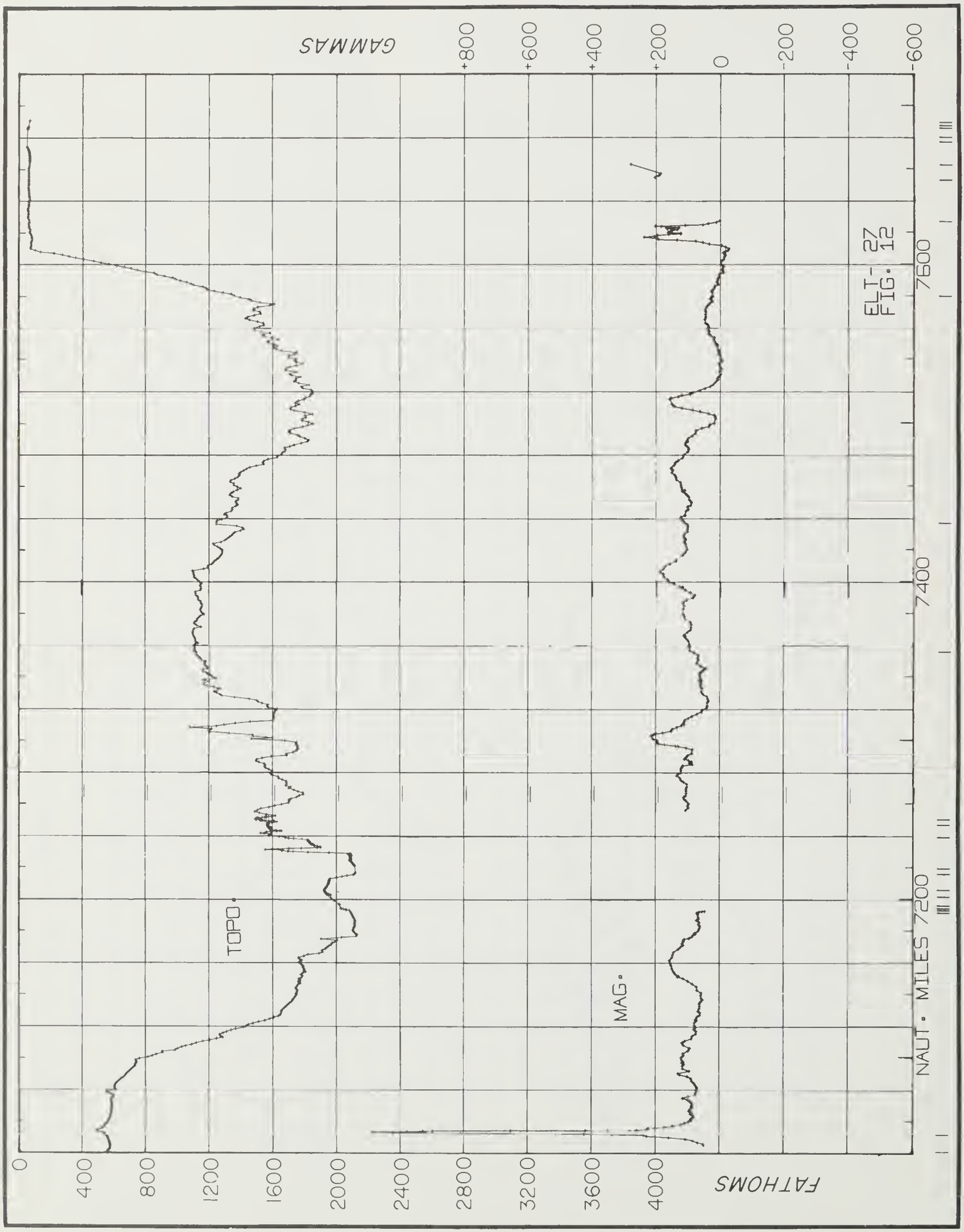

GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
4000
4200
4400
ELT-
FIG. 27


GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FOLD
4600
4-00
500
ELT- 27
FIG. 8


GAMMAS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS
+800
+600
+400
+200
0
-200
-400
-600
5600
5400
5200
FOLD
ELT- 27
FIG. 9


GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
6400
6200
6000
5800
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
ELT- 27
FIG. 10


GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
ELT- 27
FIG. 11
7000
6800
6600
FATHOMS
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000


GAMMAS
+800
+600
+400
+200
0
-200
-400
-600
TOPO.
MAG.
ELT- 27
FIG. 12
7600
7400
NAUT. MILES 7200
0
400
800
1200
1600
2000
2400
2800
3200
3600
4000
FATHOMS

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of Columbia University
Palisades, New York

SEA FLOOR GEOTHERMAL MEASUREMENTS FROM VEMA CRUISE 24

by

Marcus G. Langseth, Jr.

Isabel Malone

Dee Breger

July 1971

Technical Report No. 3-CU-3-71
ONR Contract N00014-67-A-0108-0004

and

Technical Report No. 1-CU-1-71
National Science Foundation Grant GP 5356

and

Technical Report No. 1-CU-1-71
National Science Foundation Grant GP 1412

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Sea-Floor Geothermal Measurements from Vema Cruise 24

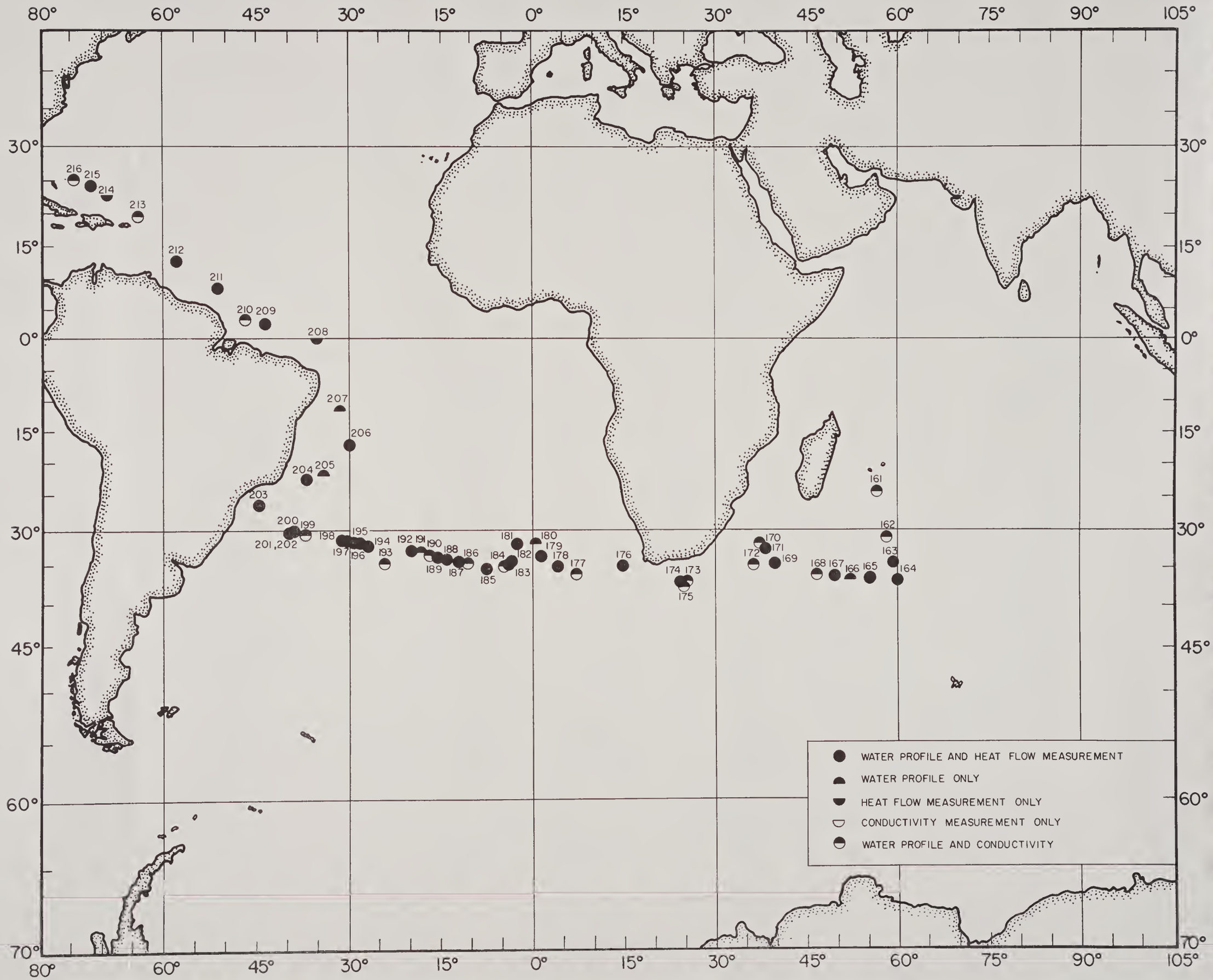
M. Langseth, I. McTone and D. Breger

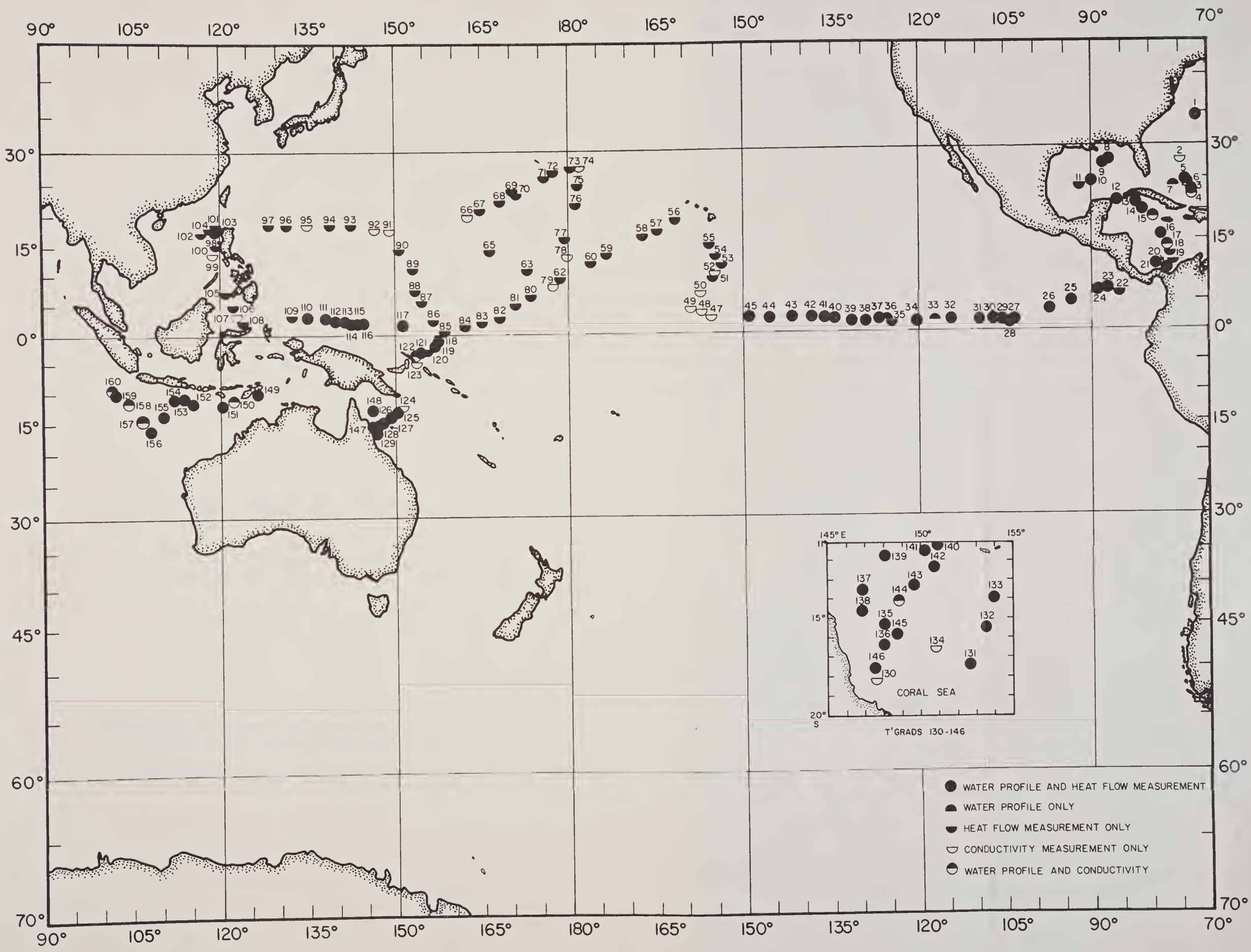
Technical Report 1971

Errata:

Corrected depths

Page	T'Grad #	Meters
16	165	4631
29	1	4569
35	4	4783
81	27	3246
83	28	3457
93	33	4065
115	44	4664
269	125	4562
283	132	4660
289	135	1182
293	137	2235
317	149	2708
347	164	4998
407	194	4182


80° 60° 45° 30° 15° 0° 15° 30° 45° 60° 75° 90° 105°
30° 15° 0° 15° 30° 45° 60° 70°
216 215 214 213 212 211 210 209 208 207 206 204 205 203 200 199 201,202 198 195 197 196 194 193 192 191 190 189 188 187 186 185 184 183 182 181 180 179 178 177 176 174 173 175 172 171 170 169 168 167 166 165 164 163 162 161
WATER PROFILE AND HEAT FLOW MEASUREMENT
WATER PROFILE ONLY
HEAT FLOW MEASUREMENT ONLY
CONDUCTIVITY MEASUREMENT ONLY
WATER PROFILE AND CONDUCTIVITY


90° 105° 120° 135° 150° 165° 180° 165° 150° 135° 120° 105° 90° 70°
30°
15°
0°
15°
30°
45°
60°
70°
CORAL SEA
145° E
150°
155°
11°
15°
20° S
T'GRADS 130-146
WATER PROFILE AND HEAT FLOW MEASUREMENT
WATER PROFILE ONLY
HEAT FLOW MEASUREMENT ONLY
CONDUCTIVITY MEASUREMENT ONLY
WATER PROFILE AND CONDUCTIVITY

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ILLUSTRATIONS

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INTRODUCTION

This report gives results of temperature measurements in the deep-ocean water and sea-floor sediment, and results of conductivity measurements on sediment cores taken with the temperature measurements. These measurements were made on VEMA Cruise 24 that left New York City January 1967 and ended in Miami in December 1967. During this yearlong cruise, the VEMA circumnavigated the earth making observations in the three major world oceans. The principal objective of the measurements reported here is to determine the geothermal heat flux through the sea floor (see for example, Bullard, 1954). These measurements are also pertinent to studies of deep and near bottom water temperature in the ocean, as well as steady-state and transient thermal processes at the sediment-water interface. We have attempted, in this report, to present the data in form that is useful to scientists interested in the thermal regime of the deep ocean.

INSTRUMENT TECHNIQUES

For a complete description of the instruments and techniques used to measure temperature and conductivity in the deep sea, see Gerard et al. (1960) and Langseth (1965). A summary of the measurement techniques is given below so that the reader can better assess the data.

The Ewing Thermograd: All of the temperature data reported was measured with the Ewing thermograd. This instrument uses an array of 3 to 5 thermistor probes mounted along a coring tube to measure sediment temperatures, a thermistor probe to measure water temperature, and a pressure

gauge to indicate the depth of the instrument in the water. The temperature and pressure are recorded on 70 mm film as analog traces. The recorder is placed inside of a pressure case that is secured inside the weight at the top of the piston corer.

Water Temperature Measurements: Water temperatures are measured during lowering and hoisting of the thermograd with a bead-type thermistor that is mounted in a watertight stainless steel probe. The diameter of the probe is about 1.25 mm and its length is 2.5 cm. The probe has a time constant of about 0.5 sec in flowing water. This probe is mounted on the pressure vessel. During lowering, the water probe points downward so that relatively undisturbed water is continually flowing past it. (Lowering rates vary from 100 to 200 meters/minute.) Upon hoisting, the probe is in the wake of the core weight. (Hoisting rates are usually 50 to 100 meters/minute.)

The water temperature trace on the 70 mm film record has a displacement of about 2.5 cm per degree centigrade, and the film record is read with a precision of about 0.1 mm. The water probe is calibrated prior to use at sea in a constant- temperature bath at 5 or 6 points with a absolute accuracy of $\pm 0.05°$ C. The relative accuracy of calibration between temperature points is about $\pm 0.005°$ C.

Instrument Depth Measurements: The depth of the instrument below the sea surface is measured by a pressure gauge. This gauge consists of a cacity exposed to the ambient sea pressure and surrounded by strain-sensitive wires. The linearity of the gauge is about 0.35%. The pressure detected

by the gauge is recorded as a separate trace on the 70 mm film record, which has a sensitivity of 1500 m per centimeter displacement. Thus the resolution of the record is about 15 m. Depths during lowering are found by a linear interpolation between the surface and bottom readings which results in an accuracy of depth measurement of about ±25 m.

Sediment Temperatures: Temperatures at up to five points below the sediment-water interface are measured by means of thermistor probes mounted along the core tube. The thermistor is in the end of a stainless steel probe 0.317 cm in diameter. This probe is pressure proof and mounted on a steel fin so that it is held about 5 cm from the core tube. The probe itself is secured in a plastic (PVC) collar that provides thermal insulation from the fin. The tip of the probe projects about one inch beyond this collar.

To measure sediment temperatures the corer is lowered to within about a hundred meters of the bottom and held for a few minutes to allow the probes to equilibrate in the nearly isothermal near bottom water. The corer is then lowered until bottom contact is made. Upon contact, the corer free-falls about 10 ft., penetrating the sediment to depths up to 25 meters. The corer is left undisturbed in the sediment for about 5 minutes, while temperatures are recorded as the probes equilibrate with the sediment. The corer is then extracted from the sediment and hoisted back up to the ship.

The sediment probes are calibrated in the same way as the water probe

described earlier. Temperature gradients in the sediment, which are of prime interest, are determined by taking the difference between measurements in the water near the bottom and in the sediment after equilibration. Thus in determining gradients we depend only on the relative calibration accuracy which is $\pm$0.005° C.

Conductivity Measurements: Measurements of thermal conductivity are made on the sediment core samples aboard the research ship about one hour after the core has been extruded from the core tube. A thin probe is imbedded in the sediment and the temperature measured while the probe is heated at a constant rate. We use a probe about 6 cm in length and 0.8 mm in diameter that contains a 50 Ω heater wire and a thermistor. The probe is inserted into the 2 1/2" sediment sample at an angle of about 45° to the long axis of the core. Six volts is applied to the heater and the temperature rise is recorded on a Varian strip-chart recorder for about two minutes.

Reduction of thermograd and conductivity data: The trace displacements on the 70 mm thermograd film record are measured on a projected image of the film on the surface of a digitizing table. The magnification is about 4 times. The minimum digitizing increment of this table is 0.01". The digitized trace displacements corresponding to water and mud temperatures and instrument depth are entered on computer punch cards, which are converted into temperature versus depth information with an IBM 1130 computer.

The conductivity measurements are reduced by manually reading displacements from the strip chart records. Displacement versus resistance

calibration, made on board ship, and temperature versus resistance calibration of the thermistor are used to convert displacements into temperature. Readings are taken approximately every 10 seconds after the probe heater is turned on. These temperatures are then plotted versus the logarithm of time. The slope of these semi-log plots can be interpreted in terms of conductivity by means of the following relation.

$$K = \frac{Q \cdot \ln(t_2/t_1)}{4\pi (T_2 - T_1)}$$

where:

Q = the heater power per unit length in cal/cm sec

t_2 and t_1 are times after heater turn-on usually 10 and 100 seconds

T_2 and T_1 are temperatures at t_1 and t_2.

PRESENTATION OF THE DATA:

Summary Table: The thermal data relevant to the geothermal heat flux is given for each station in Table 1.

The depths are given in corrected meters, determined by taking the depth indicated by the Precision Depth Recorder at the time of the core contact and correcting for the velocity of sound in water using Matthews (1969) tables.

The gradient refers to the vertical gradient in the sediment determined from temperature measurements in the sediment. Units are °C/10 m.

The listed conductivity value is the harmonic mean, $N / \sum_{i=1}^{N} (1/X_i)$

where N is the total number of measurements and X_i's are conductivity values, of all measurements within the interval of gradient measurement. Units are mcal/°C sec cm.

Each conductivity measurement is followed by an "M" or "A" which indicates whether the value is based on measurements (M) or is assumed from nearby stations (A).

Heat flow is the product of the gradient and the conductivity. The units are $\mu cal/cm^2 sec$.

The evaluation is a subjective index applied by the authors to indicate our appraisal of the reliability of the temperature and conductivity measurements. The numbers are interpreted in Table 2.

TABLE 1: VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
NORTH ATLANTIC									
34° 26'N	71° 42'W	4569	0.41	2.48	1.02	3	1	2	1967
27° 46'N	74° 39'W	4726	-	2.11	-	0	2	4	1967
22° 42'N	72° 40'W	4776	0.32	2.07	0.66	5	3	10	1967
22° 47'N	72° 57'W	4783	-	2.32	-	0	4	11	1967
24° 39'N	73° 50'W	5327	-	2.14	-	0	5	12	1967
24° 44'N	73° 41'W	5321	-	2.18	-	0	6	13	1967
24° 44'N	73° 42'W	5343	-	-	-	0	7	14	1967
CARIBBEAN									
27° 28'N	86° 49'W	3027	0.49	2.01	0.98	6	8	19	1967
27° 17'N	87° 57'W	2652	0.21	2.18	0.46	8	9	20	1967
24° 23'N	90° 06'W	3642	0.39	2.31	0.90	8	10	21	1967
23° 35'N	92° 08'W	3740	0.90	2.20	1.98	9	11	22	1967
21° 27'N	85° 42'W	2078	0.52	2.71	1.40	7	12	23	1967
20° 45'N	82° 30'W	4454	0.55	2.42	1.33	10	13	24	1967
19° 57'N	81° 07'W	4155	0.59	2.39	1.41	8	14	25	1967
19° 02'N	80° 32'W	6976	-	2.58	-	0	15	26	1967
15° 19'N	77° 57'W	3618	1.00	2.52	2.52	5	16	28	1967
13° 50'N	77° 18'W	4038	-	2.89	-	0	17	29	1967
12° 26'N	76° 43'W	3742	0.48	2.74	1.32	8	18	30	1967
11° 12'N	76° 06'W	2707	0.39	2.67	1.01	8	19	32	1967
10° 00'N	77° 04'W	3131	0.58	2.77	1.61	7	20	33	1967
10° 40'N	79° 06'W	3539	0.73	2.17	1.58	7	21	34	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
EAST PACIFIC									
6° 30'N	85° 13'W	1878	1.04	2.20	2.29	5	22	36	1967
6° 56'N	87° 21'W	3155	1.59	1.89	3.00	6	23	37	1967
6° 19'N	90° 37'W	3647	0.49	1.78	0.87	5	24	38	1967
4° 53'N	93° 34'W	3415	0.34	2.05	0.69	9	25	39	1967
3° 04'N	97° 08'W	3206	0.60	2.27	1.36	8	26	40	1967
1° 33'N	103° 02'W	3246	1.22	2.17	2.65	8	27	44	1967
1° 38'N	103° 56'W	3457	0.78	2.10	1.64	8	28	45	1967
1° 40'N	105° 09'W	3574	0.31	1.99	0.62	8	29	46	1967
1° 43'N	106° 54'W	3654	0.17	2.10	0.35	8	30	47	1967
1° 43'N	109° 20'W	3722	0.14	2.16	0.30	9	31	48	1967
1° 48'N	114° 32'W	3859	1.23	2.25	2.77	6	32	50	1967
1° 46'N	117° 12'W	4065	-	-	-	0	33	51a	1967
1° 40'N	120° 20'W	4412	0.20	2.04	0.41	8	34	51	1967
1° 54'N	124° 49'W	4702	0.37	2.19(A)	0.81	7	35	52b	1967
1° 54'N	125° 25'W	4600	-	-	-	0	36	52c	1967
1° 49'N	127° 00'W	4481	0.02	2.23	0.04	7	37	52	1967
1° 51'N	129° 01'W	4476	0.73	1.98	1.45	10	38	53	1967
1° 51'N	131° 42'W	4479	0.14	2.12	0.30	8	39	54	1967
2° 03'N	134° 38'W	4190	0.47	2.47	1.16	5	40	55	1967
2° 14'N	136° 15'W	4344	0.22	2.29	0.50	8	41	56	1967
2° 16'N	138° 36'W	4252	0.21	2.42	0.51	8	42	57	1967
2° 16'N	141° 40'W	4492	0.27	2.24	0.59	10	43	58	1967
2° 34'N	145° 32'W	4664	0.43	2.08	0.89	10	44	59	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
EAST PACIFIC (Continued)									
2° 48'N	149° 00'W	4860	0.86	1.81	1.55	8	45	60	1967
3° 04'N	153° 35'W	4836	-	1.62	-	0	47	62	1967
3° 45'N	157° 07'W	4490	-	2.41	-	0	48	63	1967
4° 10'N	159° 04'W	3934	-	2.69	-	0	49	64	1967
6° 40'N	157° 32'W	4728	-	2.10	-	0	50	65	1967
9° 18'N	155° 37'W	5235	0.56	1.86	1.04	7	51	66	1967
10° 13'N	155° 01'W	5297	-	1.71	-	0	52	67	1967
11° 46'N	154° 02'W	5209	0.70	1.82	1.27	6	53	68	1967
13° 08'N	154° 32'W	5454	0.54	1.94	1.05	10	54	69	1967
14° 57'N	155° 18'W	3029	0.73	1.90	1.39	8	55	70	1967
WEST PACIFIC									
19° 18'N	161° 19'W	5092	1.28	2.00(A)	2.56	3	56	71	1967
17° 31'N	164° 41'W	5474	0.62	1.87	1.16	8	57	72	1967
16° 29'N	166° 47'W	5235	0.62	2.11	1.31	10	58	73	1967
13° 18'N	172° 55'W	5683	0.72	1.95	1.40	8	59	76	1967
12° 01'N	175° 37'W	5280	0.82	1.96	1.61	8	60	77	1967
9° 17'N	178° 57'E	5706	0.93	1.86	1.73	10	62	79	1967
10° 53'N	173° 03'E	5377	0.80	1.72	1.38	10	63	80	1967
14° 08'N	166° 48'E	5589	-	2.53	-	0	65	82	1967
19° 52'N	162° 58'E	4810	-	2.00	-	0	66	88	1967
20° 52'N	165° 07'E	5547	0.63	1.91	1.19	8	67	89	1967
22° 12'N	168° 02'E	5589	-	2.07	-	0	68	90	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
WEST PACIFIC (Continued)									
23° 59'N	170° 52'E	5937	0.58	2.13	1.24	8	69	91	1967
23° 30'N	171° 15'E	5911	0.55	2.28	1.25	9	70	92	1967
25° 48'N	176° 13'E	5785	0.55	1.97	1.08	10	71	93	1967
26° 34'N	177° 46'E	5703	0.69	2.20(A)	1.52	8	72	94	1967
27° 36'N	179° 42'E	5288	0.58	2.12	1.23	10	73	95	1967
27° 46'N	177° 59'E	3305	-	2.27	-	0	74	96	1967
24° 48'N	178° 04'W	5449	0.61	2.14	1.31	10	75	97	1967
21° 47'N	178° 47'W	5445	0.74	2.10(A)	1.55	8	76	98	1967
16° 08'N	179° 44'E	5336	0.64	2.07	1.32	10	77	100	1967
13° 04'N	179° 55'E	3332	-	3.02	-	0	78	101	1967
8° 19'N	177° 26'E	5097	-	2.15	-	0	79	102	1967
6° 34'N	173° 30'E	4993	0.78	2.41	1.88	8	80	103	1967
4° 51'N	170° 55'E	4503	0.49	2.22	1.09	9	81	104	1967
2° 49'N	168° 11'E	4412	0.71	2.40(A)	1.70	8	82	105	1967
2° 04'N	164° 19'E	4163	0.49	2.50	1.22	9	83	107	1967
1° 13'N	162° 12'E	4115	0.46	2.78	1.28	10	84	108	1967
0° 26'N	158° 48'E	2350	0.40	2.75	1.10	10	85	109	1967
2° 20'N	156° 48'E	2614	0.36	3.14	1.13	7	86	110	1967
5° 38'N	155° 00'E	4042	0.47	3.04	1.43	8	87	111	1967
7° 56'N	153° 32'E	4966	0.69	2.23	1.54	7	88	112	1967
11° 19'N	153° 05'E	5862	0.58	2.03	1.18	10	89	113	1967
14° 42'N	150° 33'E	5999	0.50	2.17	1.08	8	90	114	1967
17° 54'N	149° 11'E	5547	-	2.24	-	0	91	115	1967
17° 55'N	146° 01'E	2683	-	2.33	-	0	92	116	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat	Eval.	T'Grad Number	Core Number	Year
PHILIPPINE SEA									
18° 36'N	142° 22'E	3702	0.49	2.06	1.01	9	93	117	1967
18° 42'N	138° 44'E	5125	0.44	2.03	0.89	8	94	118	1967
18° 39'N	135° 00'E	5631	-	2.42	-	0	95	119	1967
18° 31'N	131° 39'E	5946	0.60	2.36	1.42	10	96	120	1967
18° 30'N	128° 23'E	5432	1.06	2.38	2.54	9	97	121	1967
17° 23'N	119° 30'E	2947	0.35	2.87	1.00	8	98	123	1967
SOUTH CHINA SEA									
14° 00'N	118° 52'E	4068	-	2.11	-	0	99	124	1967
15° 30'N	119° 30'E	2332	1.13	2.48	2.80	4	100	125	1967
18° 18'N	119° 48'E	2465	0.49	2.40	1.16	7	101	130	1967
17° 33'N	117° 00'E	4177	-	3.40	-	3	102	131	1967
18° 47'N	119° 30'E	4181	-	3.19	-	3	103	132	1967
18° 33'N	118° 55'E	3962	-	2.28	-	3	104	133	1967
SULU SEA									
7° 21'N	120° 31'E	4201	1.08	2.04	2.21	8	105	135	1967
CELEBES SEA									
5° 17'N	122° 18'E	4512	0.92	1.96	1.80	10	106	136	1967
3° 47'N	122° 59'E	4993	-	2.10	-	0	107	137	1967
2° 42'N	123° 47'E	4836	0.55	2.01	1.11	4	108	138	1967
CAROLINE BASIN									
3° 31'N	132° 26'E	3353	0.23	2.21	0.51	8	109	139	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
CORAL SEA (Continued)									
17° 22'S	152° 33'E	1326	0.55	2.69	1.48	9	131	162	1967
15° 27'S	153° 34'E	4660	0.82	2.31	1.89	10	132	163	1967
13° 52'S	153° 58'E	4513	0.81	2.12	1.72	10	133	164	1967
16° 31'S	150° 47'E	817	-	2.36	-	0	134	166	1967
15° 17'S	148° 03'E	1182	0.70	2.27	1.59	8	135	167	1967
16° 20'S	146° 52'E	1783	0.55	2.43	1.34	8	136	168	1967
13° 31'S	146° 53'E	2235	0.75	2.36	1.77	8	137	170	1967
14° 41'S	146° 49'E	1720	0.78	2.35	1.83	7	138	172	1967
11° 46'S	148° 06'E	3363	0.74	2.06	1.52	8	139	173	1967
11° 07'S	150° 52'E	993	0.38	2.21	0.84	6	140	174	1967
11° 25'S	150° 18'E	2635	0.74	2.01	1.25	8	141	175	1967
12° 14'S	150° 49'E	4420	0.66	2.20	1.45	7	142	176	1967
13° 12'S	149° 40'E	4515	0.71	2.54	1.80	8	143	177	1967
14° 06'S	148° 50'E	4008	-	2.05	-	0	144	178	1967
15° 49'S	148° 49'E	1053	0.69	2.34	1.62	8	145	179	1967
17° 31'S	147° 30'E	1368	0.67	2.28	1.53	5	146	182	1967
15° 20'S	146° 15'E	2206	0.94	2.26	2.12	9	147	183	1967
12° 52'S	146° 12'E	3001	0.66	2.40	1.58	8	148	184	1967
TIMOR SEA									
9° 38'S	126° 35'E	2708	0.80	2.04	1.63	9	149	185	1967
10° 53'S	122° 06'E	1284	-	2.46	-	0	150	186	1967
11° 43'S	120° 12'E	4312	0.65	2.44	1.59	8	151	187	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
CAROLINE BASIN (Continued)									
3° 04'N	135° 33'E	4466	1.08	2.18(A)	2.35	7	110	140	1967
2° 52'N	138° 28'E	4388	1.12	2.15	2.41	10	111	141	1967
2° 30'N	139° 58'E	4221	1.10	2.04	2.24	9	112	142	1967
2° 04'N	141° 18'E	3192	0.95	2.23	2.12	10	113	143	1967
1° 53'N	142° 23'E	3168	0.92	2.42	2.23	8	114	144	1967
1° 49'N	143° 46'E	4291	1.30	2.03	2.64	10	115	145	1967
1° 50'N	144° 53'E	4529	0.11	2.05	0.23	10	116	146	1967
1° 40'N	151° 25'E	4920	0.69	2.09	1.44	10	117	147	1967
SOLOMON PLATEAU									
0° 50'S	157° 22'E	1908	0.36	2.36	0.85	7	118	148	1967
1° 41'S	156° 49'E	1661	0.37	2.37	0.88	7	119	149	1967
2° 11'S	155° 42'E	1851	0.39	2.54	0.98	7	120	150	1967
2° 25'S	154° 57'E	2594	0.38	2.31	0.88	7	121	151	1967
3° 18'S	153° 32'E	2416	-	2.55	-	0	122	152	1967
CORAL SEA									
4° 30'S	153° 28'E	4113	-	2.68	-	0	123	153	1967
12° 03'S	151° 14'E	4236	-	2.24	-	0	124	154	1967
12° 52'S	150° 12'E	4562	0.66	2.34	1.55	6	125	155	1967
13° 49'S	149° 04'E	4519	0.74	2.43	1.80	9	126	156	1967
14° 57'S	147° 55'E	1214	0.66	2.42	1.59	7	127	157	1967
15° 15'S	146° 51'E	1756	0.95	2.51	2.38	6	128	158	1967
16° 33'S	146° 24'E	1405	0.89	2.49	2.22	7	129	159	1967
18° 07'S	147° 36'E	1010	-	2.53	-	0	130	160	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
JAVA TRENCH									
11° 18'S	115° 40'E	6949	0.41	2.00	0.82	10	152	188	1967
10° 15'S	113° 56'E	3623	0.21	1.75	0.38	7	153	189	1967
10° 28'S	112° 08'E	4060	0.47	1.85	0.87	10	154	190	1967
INDIAN OCEAN									
13° 29'S	110° 26'E	5354	0.67	1.82	1.22	10	155	191	1967
16° 02'S	108° 08'E	5376	0.63	1.98	1.25	4	156	192	1967
14° 07'S	106° 32'E	4609	-	1.79	-	0	157	193	1967
11° 09'S	104° 21'E	5262	-	1.94	-	0	158	194	1967
9° 38'S	102° 34'E	5495	0.78	1.74	1.36	7	159	195	1967
9° 11'S	102° 00'E	5440	-	1.69	-	0	160	196	1967
24° 28'S	56° 37'E	4685	-	1.88	-	0	161	199	1967
30° 55'S	58° 10'E	2919	-	2.62	-	0	162	201	1967
34° 21'S	59° 13'E	5532	0.88	1.74	1.53	10	163	202	1967
36° 59'S	59° 59'E	4998	0.91	1.66	1.51	10	164	203	1967
36° 50'S	55° 17'E	4453	0.14	1.76	0.24	9	165	204	1967
36° 51'S	52° 17'E	5577	-	-	-	0	166	205	1967
36° 30'S	49° 34'E	3356	0.28	2.25	0.63	7	167	206	1967
36° 18'S	46° 13'E	3447	-	2.53	-	0	168	207	1967
34° 45'S	39° 44'E	5165	0.57	2.30	1.31	8	169	209	1967
31° 52'S	37° 13'E	4953	-	2.15	-	0	170	210	1967
32° 37'S	38° 05'E	5176	0.54	2.19	1.18	7	171	211	1967
34° 39'S	36° 24'E	5130	-	2.09	-	0	172	212	1967
36° 59'S	25° 07'E	3786	-	2.57	-	0	173	213	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
INDIAN OCEAN (Continued)									
37° 07'S	24° 06'E	3702	-	2.82	-	6	174	215	1967
37° 19'S	24° 46'E	3706	-	2.39	-	0	175	216	1967
ATLANTIC OCEAN									
34° 34'S	14° 39'E	4521	0.49	2.38	1.17	7	176	217	1967
35° 58'S	7° 09'E	5055	-	1.83	-	0	177	218	1967
34° 51'S	4° 09'E	5169	0.67	1.84	1.23	10	178	219	1967
33° 06'S	1° 29'E	2681	0.15	2.88	0.45	5	179	220	1967
32° 11'S	0° 21'W	2369	-	-	-	0	180	221A	1967
32° 02'S	2° 49'W	4166	0.36	2.73	0.98	10	181	221	1967
34° 13'S	3° 12'W	3937	0.64	2.51	1.60	7	182	222	1967
34° 12'S	3° 29'W	3255	0.38	2.73	1.04	8	183	223	1967
34° 12'S	3° 51'W	2461	-	2.38	-	0	184	224	1967
34° 56'S	7° 48'W	4087	0.60	1.94	1.17	7	185	228	1967
34° 27'S	10° 36'W	4202	-	2.91	-	0	186	229	1967
34° 13'S	11° 59'W	3545	0.44	2.55	1.17	7	187	230	1967
33° 57'S	13° 50'W	3435	1.72	3.03	5.20	5	188	231	1967
33° 46'S	15° 07'W	3129	1.36	2.50(A)	3.40	6	189	232	1967
33° 32'S	16° 42'W	3228	-	2.42	-	0	190	233	1967
33° 22'S	17° 56'W	3268	-	-	-	0	191	234	1967
33° 15'S	19° 33'W	3737	0.82	2.11	1.73	5	192	235	1967
34° 42'S	24° 05'W	4085	-	2.30	-	0	193	236	1967
32° 12'S	26° 44'S	4182	0.99	2.13	2.11	8	194	237	1967
31° 47'S	29° 00'W	3590	0.98	2.14	2.10	9	195	238	1967

TABLE 1: (Continued) VEMA 24 GEOTHERMAL DATA

Latitude	Longitude	Depth Meters	Gradient	Conduct.	Heat Flow	Eval.	T'Grad Number	Core Number	Year
ATLANTIC OCEAN (Continued)									
31° 44'S	28° 12'W	4327	0.66	1.87	1.23	8	196	240	1967
31° 38'S	30° 16'W	3946	0.66	1.96	1.29	10	197	241	1967
31° 32'S	30° 51'W	4089	0.58	1.92	1.11	10	198	242	1967
30° 39'S	36° 59'W	2094	-	1.79	-	0	199	248	1967
30° 07'S	38° 59'W	4186	0.63	1.64	1.03	10	200	249	1967
30° 11'S	39° 22'W	4808	0.61	1.49	0.91	8	201	250	1967
30° 08'S	39° 28'W	3994	-	1.55	-	0	202	251	1967
25° 57'S	44° 41'W	2069	0.51	1.98	1.01	4	203	253	1967
22° 58'S	36° 43'W	3847	0.47	2.65	1.25	5	204	254	1967
22° 30'S	33° 50'W	4942	-	-	-	0	205	255	1967
17° 32'S	29° 53'W	4898	0.70	2.50(A)	1.75	8	206	256A	1967
12° 00'S	31° 30'W	4786	-	-	-	0	207	256	1967
00° 04'N	35° 03'W	4463	0.60	1.88	1.13	10	208	257	1967
2° 21'N	43° 18'W	4255	0.61	1.94	1.19	9	209	258	1967
3° 07'N	46° 08'W	3404	-	2.05	-	0	210	259	1967
8° 02'N	51° 06'W	4470	0.65	2.50(A)	1.65	6	211	260A	1967
12° 24'N	57° 31'W	4215	-	2.86	-	4	212	260	1967
19° 45'N	64° 38'W	7427	-	1.98	-	0	213	261	1967
22° 31'N	68° 58'W	5504	0.75	2.13	1.60	10	214	262	1967
24° 21'N	71° 34'W	5524	0.29	2.99	0.87	6	215	263	1967
24° 52'N	73° 49'W	5347	-	2.29	-	0	216	264	1967

TABLE 2: DEFINITION OF EVALUATION INDEX

Index	Estimated Error Range	Reliability	Remarks (Typical Diagnostics)
9-10	5-10%	High	Three or more sediment temps.
7-8	10-15%	Good	Only two probes in sediment. Conductivity may be assumed.
5-6	15-50%	Fair	Corer moved in sediment. Apparent shunting of thermistors.
4	>30%	Poor	Only one probe in sediment.
<3	-	Unacceptable	

Listings of the Data: Individual listings of the temperature and depth data are given for each station. Depths and corresponding *in situ* and potential temperatures (computed from Wüst, 1961) are given. At some stations malfunction of either the water probe or pressure gauge obviated any measurement, in such cases the listing of water temperatures is omitted.

Sediment conductivity values are listed with the depth of measurement in the sediment. Conductivity values followed by an "F" are measurements made in sediment sucked into the pipe by the piston after full penetration was reached. This sediment, "flow-in," is highly disturbed and measurements in it should not be used in calculating heat-flow values.

Plots of Geothermal Data: The listed data for each station is presented graphically on the page adjacent to the listing. A note about the conductivity presentation: each value is printed out at a depth corresponding to the distance from the top of the core to the point of measurement. This usually represents the true depth in the sediment within ± 10 cm.

NOTES ON VEMA 24 GEOTHERMAL DATA

For convenience we have divided the large number of stations reported here into several regions for the purposes of description. This brief description of the data is intended to point out special features of the data which we feel may be of interest and also to comment on the general reliability of the measurements at various points during the cruise. During the yearlong cruise, the operation of the instrument varied considerably due to failure of specific components or repairs and improvements made on the instrument. On the two figures presented in the frontispiece notice that the type of measurements made at each station are indicated by coded symbols. Note for example in the Pacific that no water profiles were taken between stations 47 and 109. During this time the pressure gauge which measures the instrument depth in the water was broken, preventing the required water depth measurements. The data will be described more or less chronologically as the cruise proceeded from one region of the ocean to the next.

Northwest Atlantic: Stations 1 thru 7 were made along the continental margin of the United States. Most of the measurements in the sediment were unreliable and the heat flow values obtained are considered to have large errors. The conductivity measurements obtained are of good quality and are reliable. The water profiles which were obtained are also reliable. There is a very interesting thin layer of cold water corresponding to the Antarctic Bottom Water; seen in the water profiles of stations 5, 6 and 7.

Gulf of Mexico and the Caribbean: Stations numbers 8 through 21 were taken in the Gulf of Mexico and in the western Caribbean. These results have been published in a recent paper by Epp et al. (1970). In some places there are differences between the data presented here and the data as listed in that paper. This difference results from the fact that the gradient values used to measure heat flow in the paper by Epp et al. were determined using the two deepest temperature measurements in the sediment, whereas in this report the gradient is determined between the two points with the greatest separation in the sediment. In terms of heat flow measurement this series of stations is generally reliable, however the water temperature profiles are not very reliable because the water temperature data channel was very near the top of its range. One very interesting profile showing the nearly adiabatic gradient in the Caribbean is seen at station 15. The heat flow values determined are generally uniform, relatively low values were observed in the Gulf of Mexico and a single high value at station 16 was observed on the Nicaragua Rise, however this value is not considered to be very reliable.

The Eastern Equatorial Pacific: Stations numbers 22 through 55 form a chain of generally reliable heat flow measurements across the equatorial east Pacific from Panama to Hawaii. The heat flow values determined at these stations were used in a compilation of world heat flow data by Langseth and Von Herzen (1971). The heat flow values determined are highly variable. Two very high values (numbers 22 and 23) were observed in the Gulf of Panama, a broad region of generally high heat flow.

Stations 25 through 29 show anomalous temperature profiles in the

sediment, which have a temperature gradient in the upper 5 m, nearly twice that in the lower 5 m. Since the conductivities at these stations are generally uniform with depth, this implies a variation in the heat flux with depth in the sediment. The cause of this nonsteady-state heat flow is not known. Stations 24 through 44 form a long profile over the East Pacific Rise. The values of heat flow obtained are predominantly low, however, they are mixed with isolated values of high heat flow.

From station 47 to station 55 difficulties with the sediment thermistor probes lead to results of low reliability, however the conductivity measurements made at these stations are good and show interesting regional variability. The cores taken in conjunction with stations 27 through 45 are along thick lens of sediment associated with the equatorial high biological productivity zone. The measurements of conductivity on these cores yield higher than normal values and also show considerable variability with depth.

Western Pacific: Stations 56 through 92 are in the central western Pacific and as noted before no water temperature profiles were obtained, but the gradient measurements in the sea floor sediment are considered reliable. The heat flows determined from these measurements are generally uniform; in accord with other measurements in the western Pacific which show it has a remarkably uniform heat flow; however in some areas the conducitivity measurements on sediment are relatively high, values 50% higher than the average thermal conductivity of sea floor sediment (about 2×10^{-3} cal cm °C sec) were observed. Stations 92 to 97 form a short profile across the Philippine Sea Basin. Like most of the measurements in the Philippine Sea, the heat flows determined are highly variable. A few

observations were also made in the South China Sea. A single high value was observed in the Sulu Sea and two normal values, stations 106 and 108, were observed in the Celebes Sea. A closely spaced east-west line across the Caroline Basin showed the western part of this basin to be a broad region of uniformly high heat flow. Heat flows at stations 116 and 117 however showed low values and suggest that the boundary of high heat flow in the western part of the basin is sharply delineated and that values to the east may be low. Stations 90 through 116 will be published in Epp et al. (in preparation). Another line of stations, 118 through 122, were made on the Solomon Plateau. These usually indicate normal to somewhat below normal heat flow values.

The Coral Sea: Stations 123 through 148 were made largely in the Coral Sea north and east of Australia. The location of these measurements is more clearly shown in the inset. The average of these heat flow values is somewhat above the world average of 1.5 and the heat flow is relatively uniform over the Coral Sea Basin. As in the Caribbean, the water temperature profiles measured in the Coral Sea are generally low reliability due to the fact that the water temperature measuring channel was near the top of its range.

The Indian Ocean: Stations 149 through 160 are made in the eastern Indian Ocean south of the islands of Java and Sumatra. Stations 152 through 154 were made in and near the Java Trench. Station 152 is made in the floor of the trench. Note that all three of these stations have relatively low heat flow values. The water temperature profile for

station 152 in the trench is also interesting, showing an adiabatic increase of temperature with depth.

Southwestern Indian Ocean: Station numbers 161 through 175 were made on a leg of the cruise from Mauritius Island in the central Indian Ocean to Cape Town, South Africa. Stations 161 through 168 are in close vicinity to the southwest branch of the mid-Indian Ocean Ridge. Note that stations 165 through 167 show low heat flow values near the axis in accord with earlier results which showed the flanks of this ridge to have predominantly low heat flow. Stations 169 through 172 are made in the Madagascar Basin. Note in the water temperature profiles at these stations that there are very steep temperature gradients in the lower 2000 m giving evidence of the relatively strong currents which flow in this basin. Stations 172 through 175 have no sediment temperature measurements but the water temperature profiles are reliable. Note in the water profile in station 175 a thin layer of cold water right at the bottom.

The South Atlantic: Stations 176 through 203 form a relatively high density profile across the mid-Atlantic Ridge axis at about 33° S. Stations 176 through 178 were taken south of the Walvis Ridge and the water temperature profile show very clearly a thick layer of cold Antarctic bottom water in the basin. Stations 179 through 184 are on or near the crest of the Walvis Ridge. Considerable difficulty was experienced in measuring sediment temperatures at stations on the ridge, and earlier evidence (see for example Langseth *et al.*, 1966) indicated that large temperature fluctuations may cause transient heat flow in the near surface sediment on this ridge.

Stations 188 and 189 are taken right at the axis of the Mid-Atlantic Ridge and both show higher than normal values. The stations on the flank, stations 190 through 194 show average to normal heat flow. A line of very closely spaced stations were made in the eastern part of the Argentine Basin. These stations show heat flow that is quite uniform and very near normal; the water temperature profile for these stations clearly show the steep gradient in temperature between 3500 and 4400 meters that characterizes the upper boundary of the Antarctic bottom water.

Eastern Margin of South America: Leaving Brazil the VEMA followed a track just to the east of the continental margin. Heat flow measurements made along this track show nearly normal heat flow. Water temperature profiles again show the effects of Antarctic bottom water with steep gradients appearing on stations 204 through 206 and 207 and 209. In the past these steep gradients have been associated with transient heat flow in the near surface sediment; perhaps reflecting current induced movement in the bottom water. On the last part of the trip into Miami a very interesting water temperature profile was measured in the Puerto Rico Trench showing an adiabatic water column to the bottom.

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Chief scientists during the VEMA 24 Cruise were J. Lamar Worzel, George Bryan, William Ludwig, Robert Houtz, Thomas Aitken, and Robert Gerard. The measurements throughout the cruise were made by Lawrence Sullivan. H. C. Kohler, Captain of the VEMA, as usual made an important contribution to the success of the scientific program of the cruise.

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TGRAD STATION V24 1

WATER TEMPERATURES

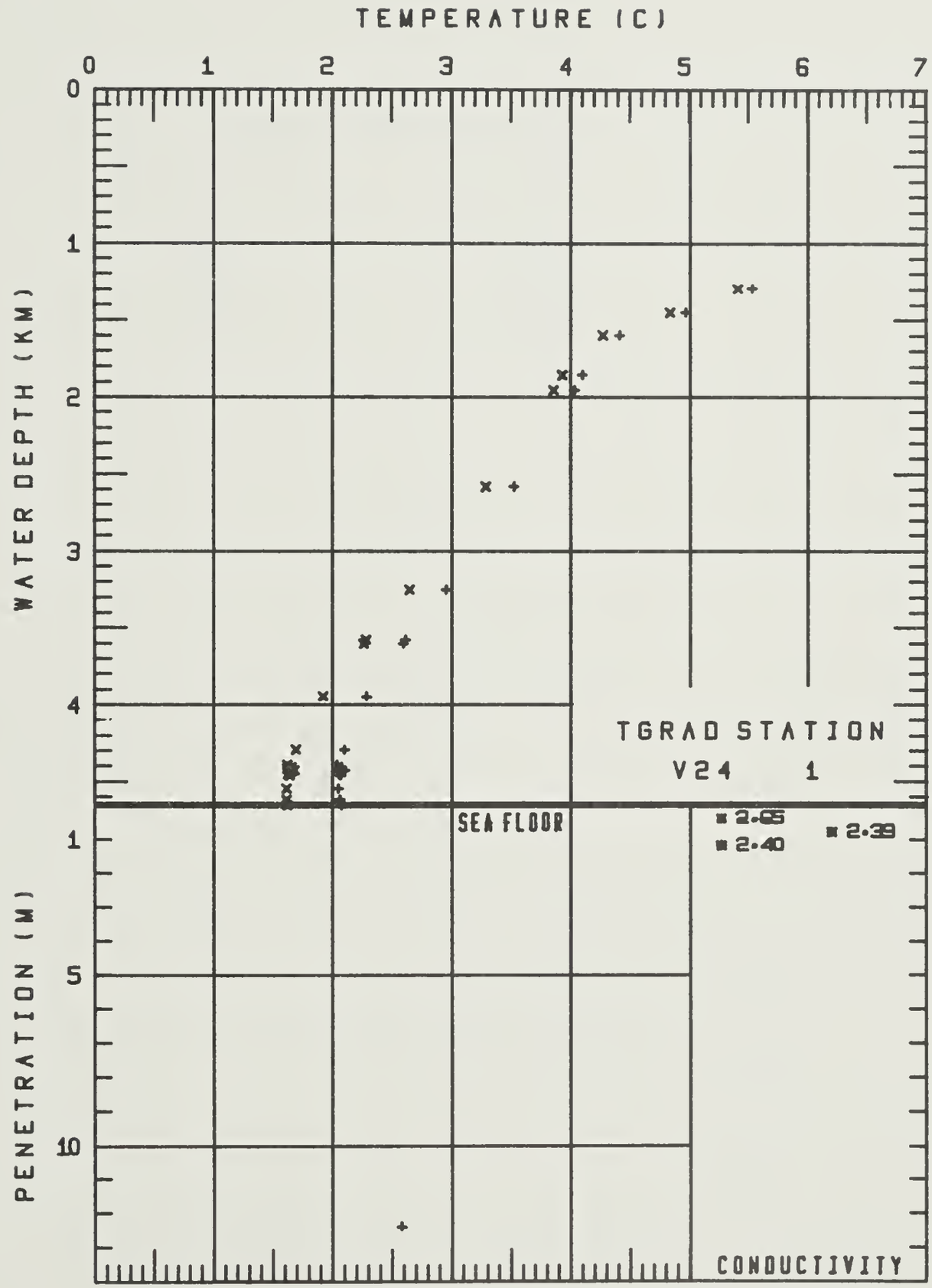
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1290.	5.53	5.40
1446.	4.97	4.83
1596.	4.41	4.27
1854.	4.09	3.93
1956.	4.03	3.86
2579.	3.52	3.29
3249.	2.95	2.65
3603.	2.60	2.26
3574.	2.61	2.28
3941.	2.29	1.92
4287.	2.10	1.70
4443.	2.06	1.64
4442.	2.05	1.63
4455.	2.07	1.64
4416.	2.06	1.64
4389.	2.03	1.62
4425.	2.10	1.68
4429.	2.08	1.66
4403.	2.08	1.66
4413.	2.07	1.65
4414.	2.04	1.62
4542.	2.05	1.61
4617.	2.06	1.61
4651.	2.07	1.62

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
12.37	2.58

SEDIMENT CONDUCTIVITIES

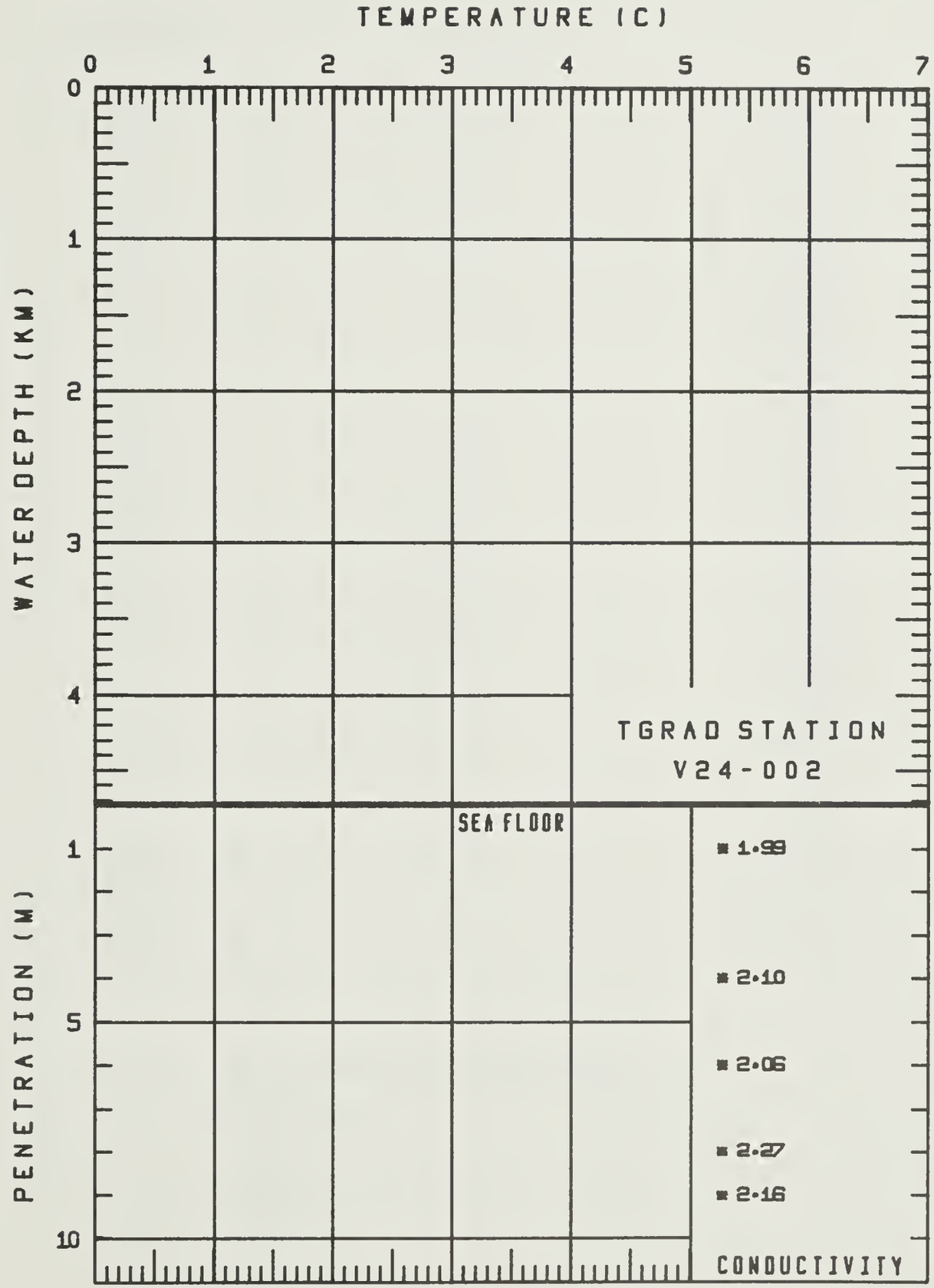
DEPTH	CONDUCTIVITY
0.40	2.65
0.80	2.39
1.20	2.40


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24 1
SEA FLOOR
PENETRATION (M)
1
5
10
CONDUCTIVITY

TGRAD STATIONV24-002

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.99
4.00	2.10
6.00	2.06
8.00	2.27
9.00	2.16


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-002
SEA FLOOR
1.98
2.10
2.06
2.27
2.16
CONDUCTIVITY

TGRAD STATION V24 3

WATER TEMPERATURES

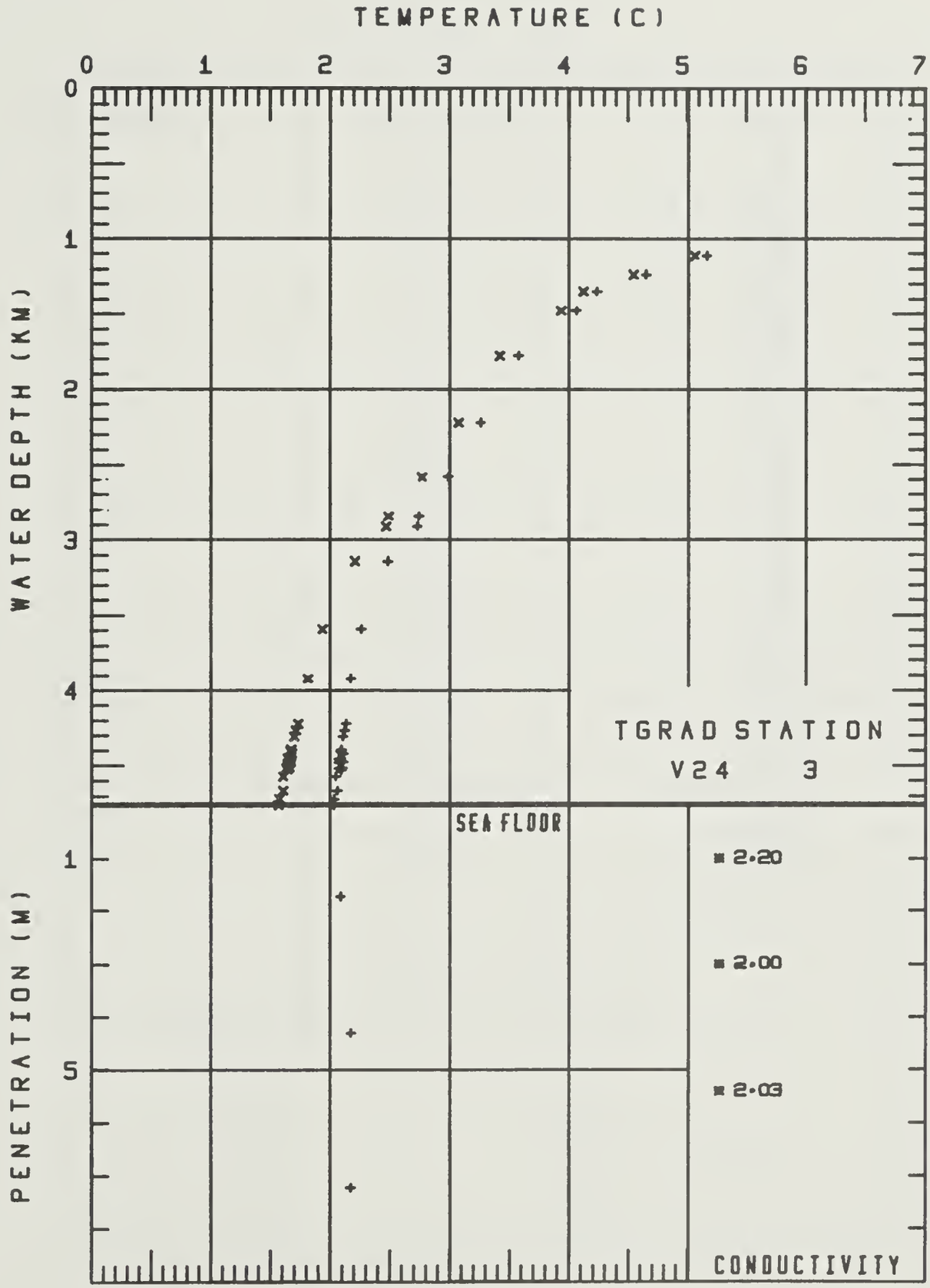
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1113.	5.16	5.06
1238.	4.65	4.54
1347.	4.23	4.12
1478.	4.06	3.93
1778.	3.57	3.42
2223.	3.26	3.07
2583.	2.99	2.76
2908.	2.73	2.47
2842.	2.74	2.49
3140.	2.48	2.21
3590.	2.26	1.94
3921.	2.17	1.81
4221.	2.13	1.73
4265.	2.12	1.72
4303.	2.11	1.70
4517.	2.07	1.64
4512.	2.10	1.66
4529.	2.09	1.65
4512.	2.09	1.66
4479.	2.07	1.64
4447.	2.08	1.65
4480.	2.09	1.66
4474.	2.10	1.67
4472.	2.10	1.67
4455.	2.09	1.66
4417.	2.10	1.68
4403.	2.09	1.67
4392.	2.09	1.68
4442.	2.09	1.67
4569.	2.05	1.61
4664.	2.06	1.60
4719.	2.03	1.57
4760.	2.03	1.56

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.73	2.09
4.31	2.17
7.21	2.17

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.20
3.00	2.00
5.40	2.03


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24 3
SEA FLOOR
= 2.20
= 2.00
= 2.03
CONDUCTIVITY

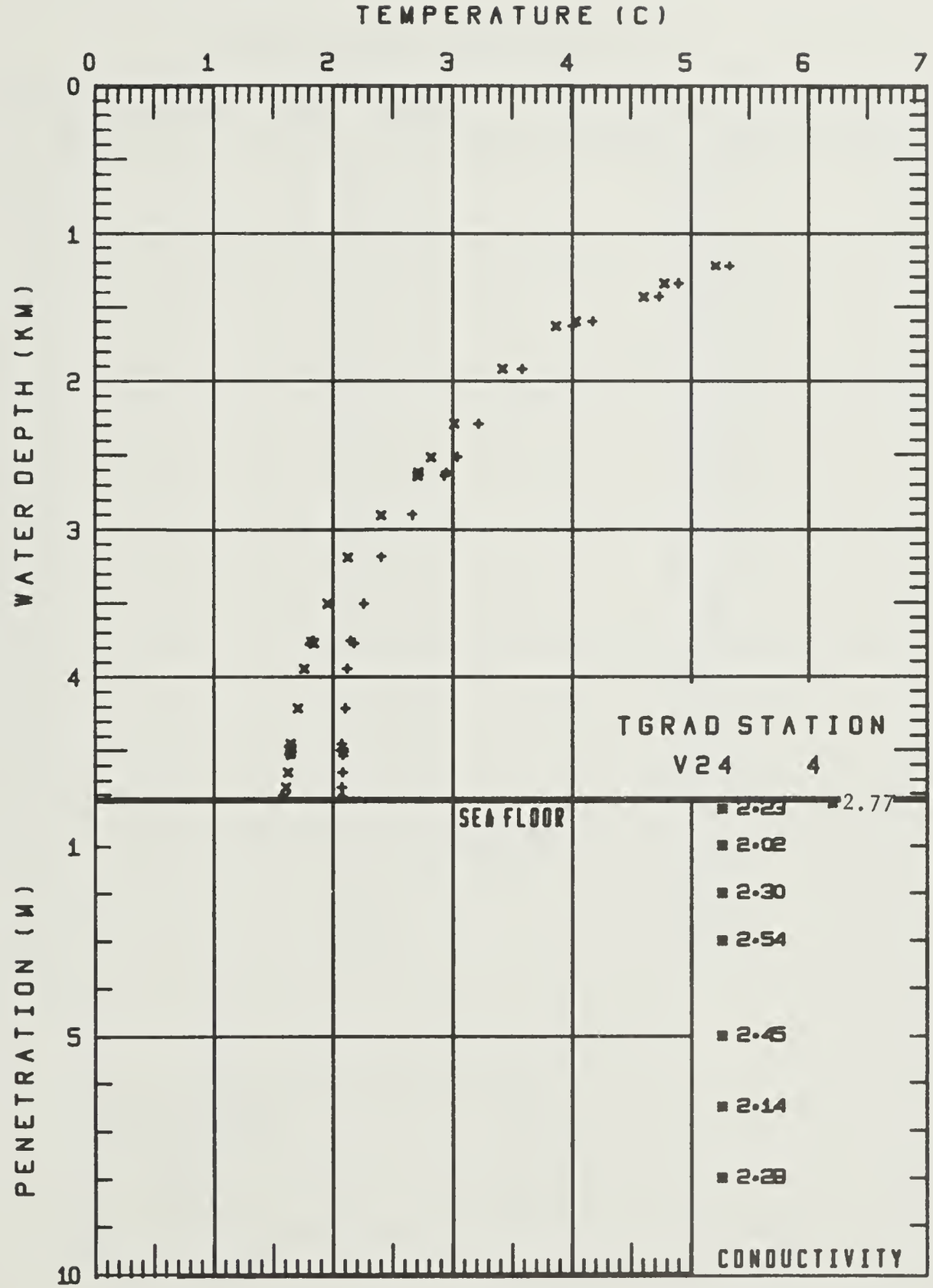
TGRAD STATION V24-004

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1223.	5.33	5.21
1342.	4.90	4.78
1433.	4.74	4.60
1596.	4.17	4.03
1630.	4.01	3.87
1918.	3.58	3.42
2289.	3.21	3.01
2513.	3.04	2.82
2645.	2.94	2.70
2615.	2.94	2.72
2907.	2.66	2.41
3189.	2.41	2.13
3506.	2.26	1.95
3772.	2.18	1.84
3756.	2.14	1.81
3948.	2.12	1.76
4216.	2.10	1.71
4485.	2.08	1.65
4511.	2.08	1.65
4498.	2.06	1.63
4454.	2.07	1.65
4530.	2.08	1.65
4489.	2.08	1.65
4647.	2.08	1.63
4748.	2.08	1.61
4811.	2.08	1.60
4825.	2.06	1.58

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.10	2.77
0.24	2.23
1.00	2.02
2.00	2.30
3.00	2.54
5.00	2.45
6.50	2.14
8.00	2.28


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
0
1
2
3
4
5
10
TGRAD STATION
V24 4
SEA FLOOR
2.77
2.23
2.02
2.30
2.54
2.46
2.14
2.28
CONDUCTIVITY

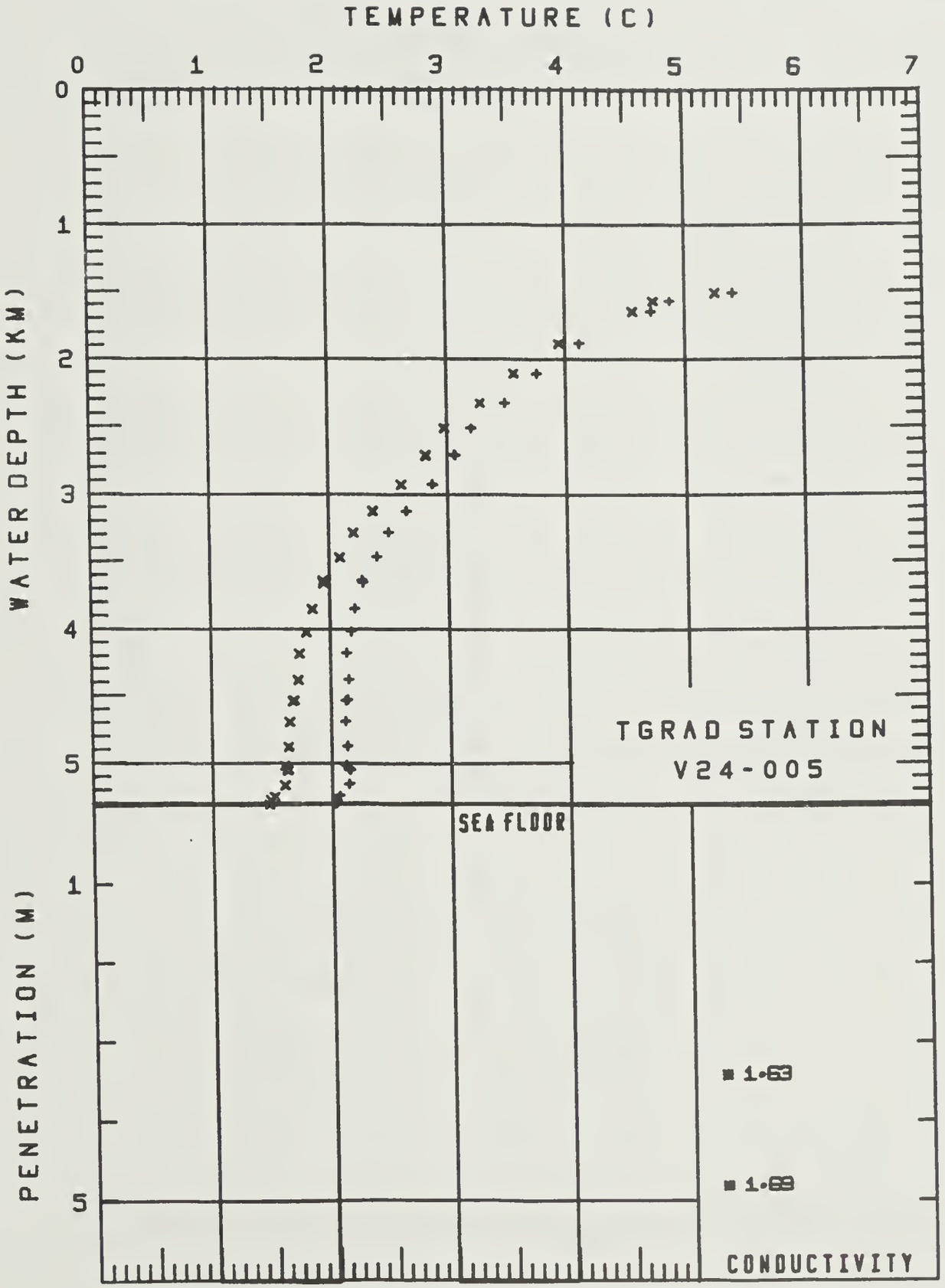
TGRAD STATION V24-005

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1505.	5.40	5.26
1567.	4.88	4.74
1647.	4.72	4.57
1881.	4.12	3.95
2106.	3.76	3.57
2322.	3.49	3.28
2512.	3.20	2.98
2709.	3.06	2.82
2716.	3.07	2.82
2932.	2.88	2.61
3130.	2.65	2.37
3292.	2.50	2.21
3472.	2.40	2.08
3645.	2.28	1.95
3659.	2.28	1.95
3855.	2.21	1.85
4027.	2.17	1.80
4187.	2.13	1.74
4381.	2.14	1.73
4530.	2.13	1.69
4537.	2.12	1.68
4694.	2.11	1.65
4878.	2.13	1.64
5050.	2.14	1.63
5039.	2.13	1.62
5017.	2.11	1.61
5051.	2.14	1.63
5161.	2.13	1.61
5245.	2.05	1.52
5277.	2.02	1.49
5305.	2.02	1.47

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.40	1.63
4.80	1.69


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-005
SEA FLOOR
PENETRATION (M)
1
5
■ 1.63
■ 1.68
CONDUCTIVITY

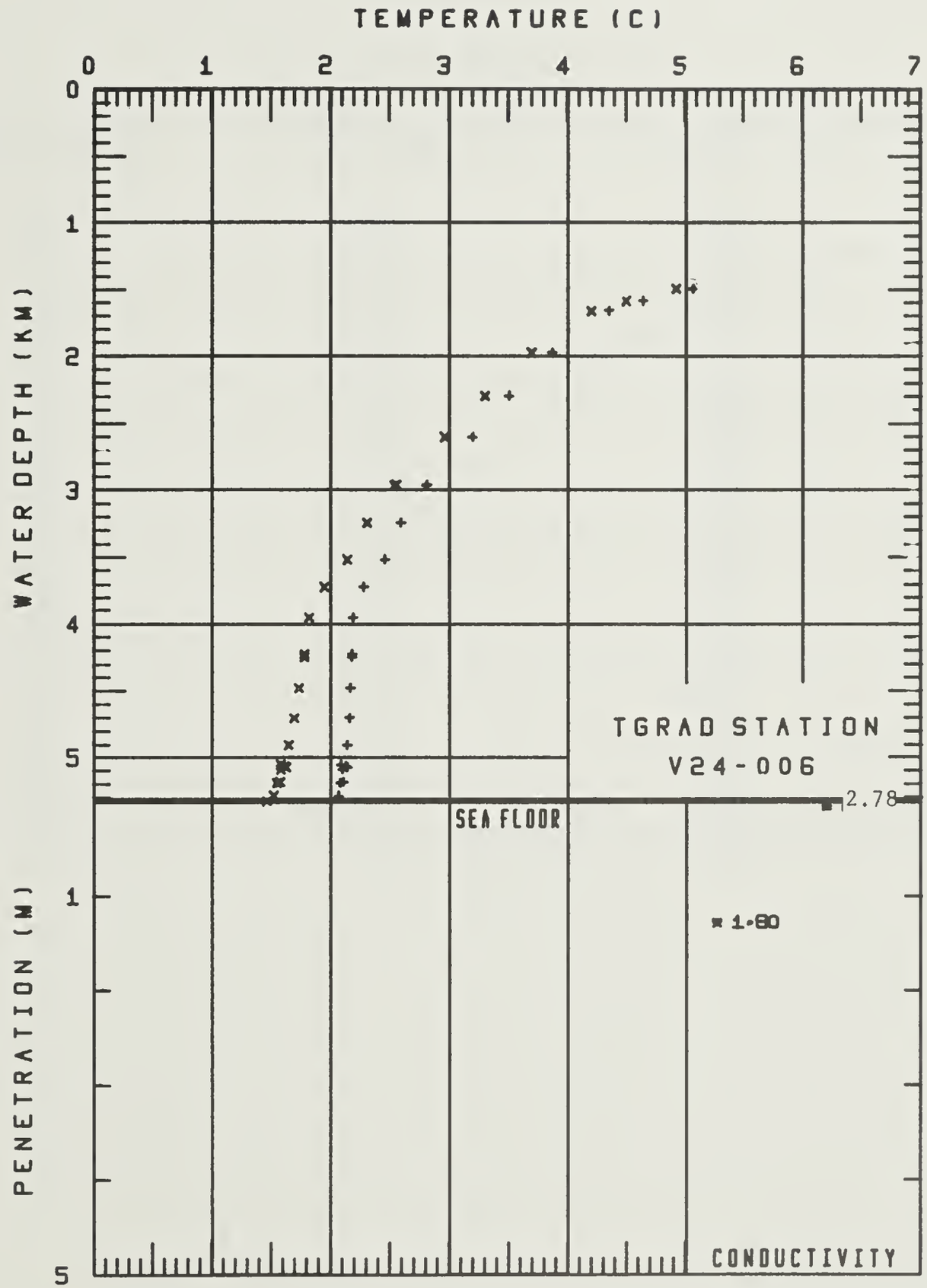
TGRAD STATION V24-006

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1492.	5.06	4.92
1577.	4.64	4.50
1653.	4.35	4.20
1969.	3.87	3.69
2293.	3.50	3.30
2603.	3.19	2.96
2965.	2.81	2.54
2959.	2.81	2.55
3243.	2.60	2.30
3521.	2.46	2.14
3719.	2.28	1.94
3953.	2.19	1.82
4244.	2.18	1.78
4222.	2.18	1.78
4476.	2.17	1.73
4705.	2.16	1.70
4905.	2.14	1.65
5065.	2.13	1.61
5066.	2.14	1.63
5064.	2.13	1.61
5087.	2.10	1.58
5049.	2.09	1.58
5178.	2.10	1.57
5187.	2.08	1.55
5279.	2.06	1.52
5323.	2.01	1.46

SEDIMENT CONDUCTIVITIES

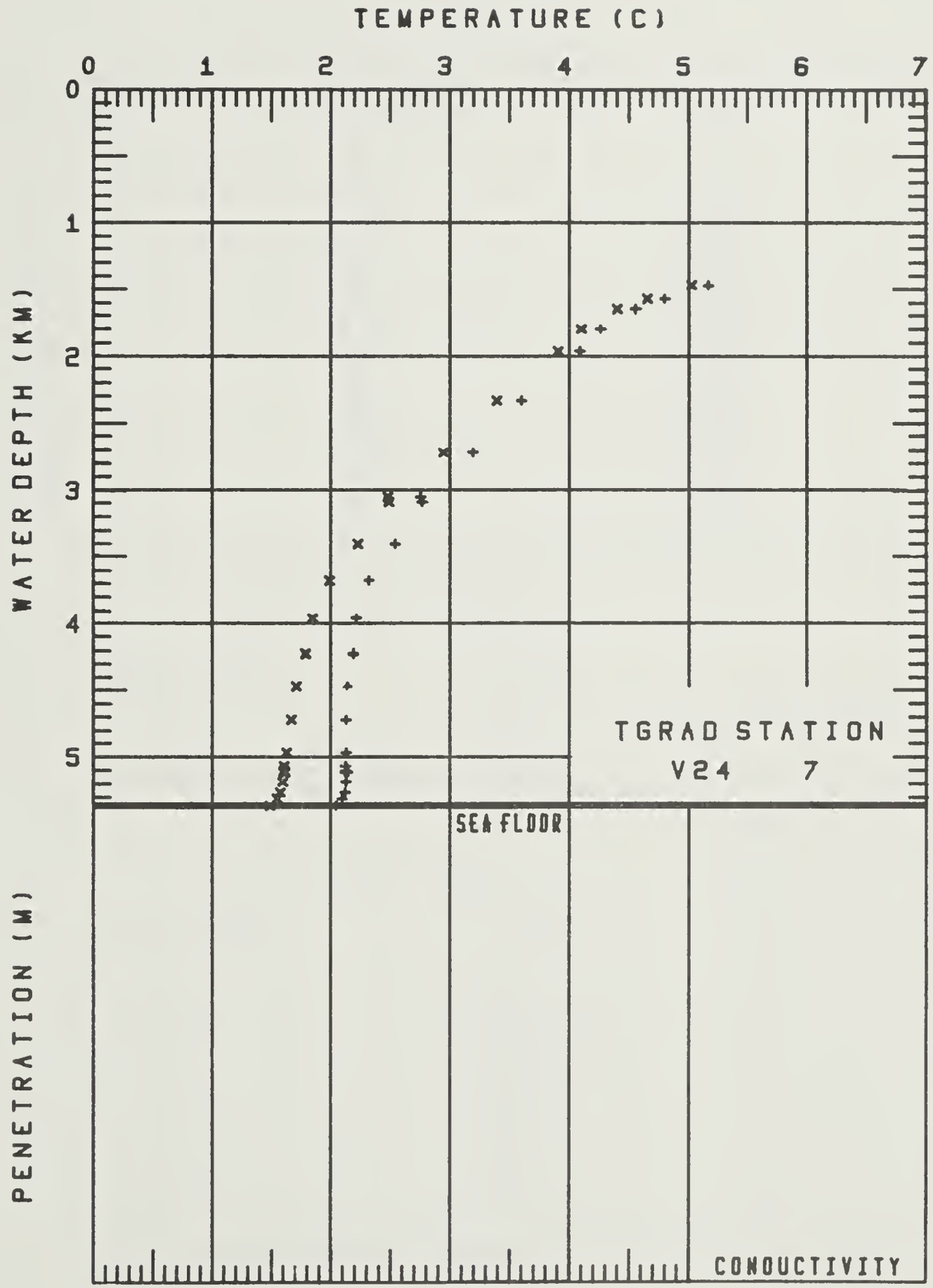
DEPTH	CONDUCTIVITY
0.05	2.78
1.28	1.80


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-006
2.78
SEA FLOOR
PENETRATION (M)
1
1-80
5
CONDUCTIVITY

TGRAD STATION V24 7

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1465.	5.17	5.03
1568.	4.80	4.65
1642.	4.55	4.40
1794.	4.26	4.10
1963.	4.09	3.91
2331.	3.60	3.39
2714.	3.19	2.94
3084.	2.77	2.49
3051.	2.75	2.48
3404.	2.54	2.23
3674.	2.32	1.99
3955.	2.21	1.85
4227.	2.19	1.79
4218.	2.19	1.79
4467.	2.13	1.70
4720.	2.13	1.66
4962.	2.12	1.63
5063.	2.12	1.61
5109.	2.12	1.60
5100.	2.13	1.61
5114.	2.14	1.61
5099.	2.13	1.61
5182.	2.13	1.59
5263.	2.12	1.58
5306.	2.09	1.54
5362.	2.04	1.49


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24 7
SEA FLOOR
PENETRATION (M)
CONDUCTIVITY

TGRAD STATION V24 8

WATER TEMPERATURES

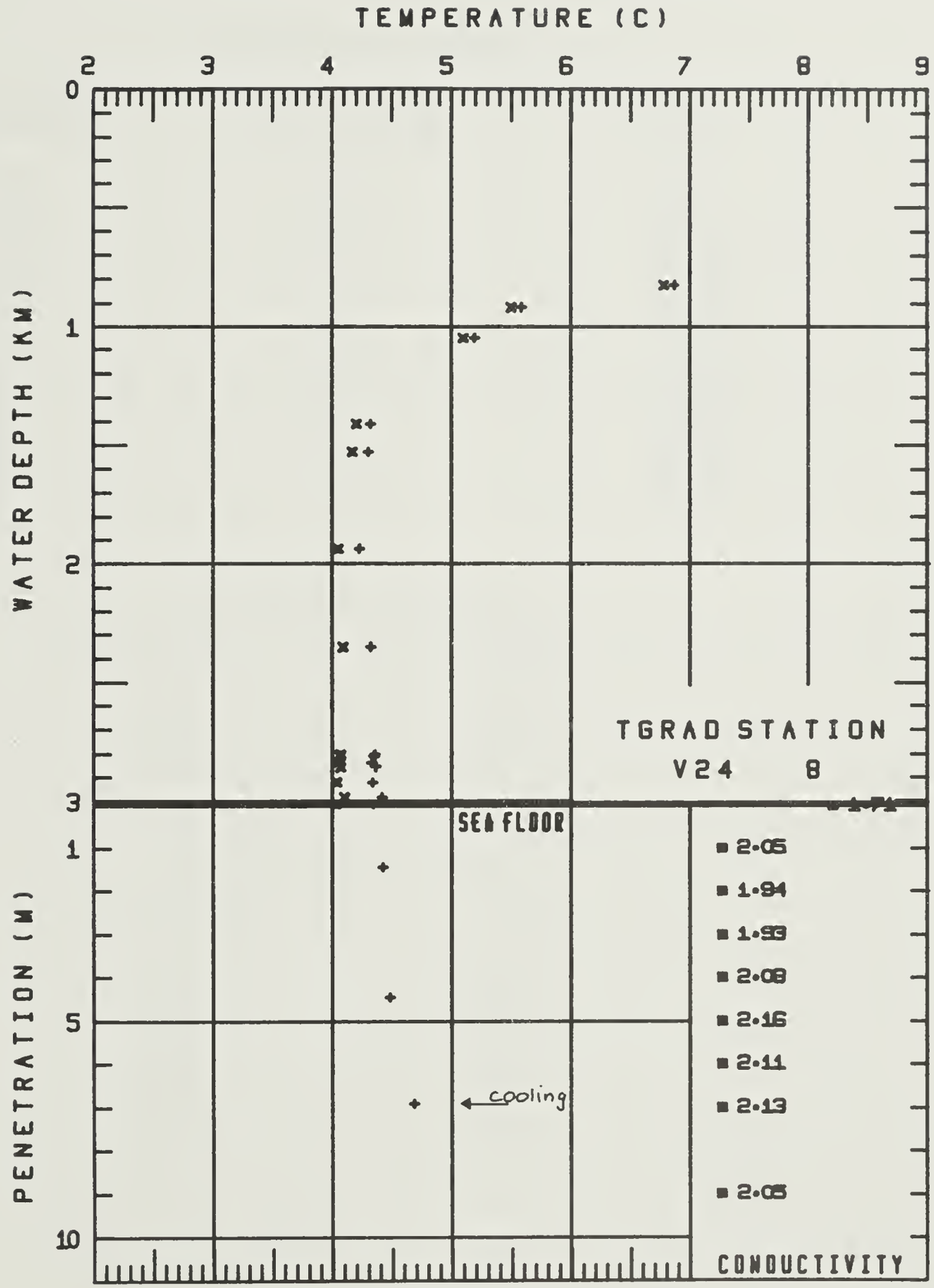
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
824.	6.86	6.77
917.	5.58	5.50
1049.	5.19	5.09
1410.	4.32	4.20
1528.	4.30	4.17
1937.	4.23	4.05
2351.	4.32	4.09
2803.	4.35	4.07
2837.	4.33	4.04
2857.	4.36	4.07
2809.	4.34	4.06
2921.	4.34	4.03
2984.	4.41	4.10
3014.	4.34	4.03

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.45	4.42
4.46	4.48
6.92	4.68

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.04	1.71
1.00	2.05
2.00	1.94
3.00	1.93
4.00	2.08
5.00	2.16
6.00	2.11
7.00	2.13
9.00	2.05


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24 8
SEA FLOOR
PENETRATION (M)
1
5
10
cooling
2.05
1.94
1.93
2.08
2.16
2.11
2.13
2.05
CONDUCTIVITY

TGRAD STATION V24 9

WATER TEMPERATURES

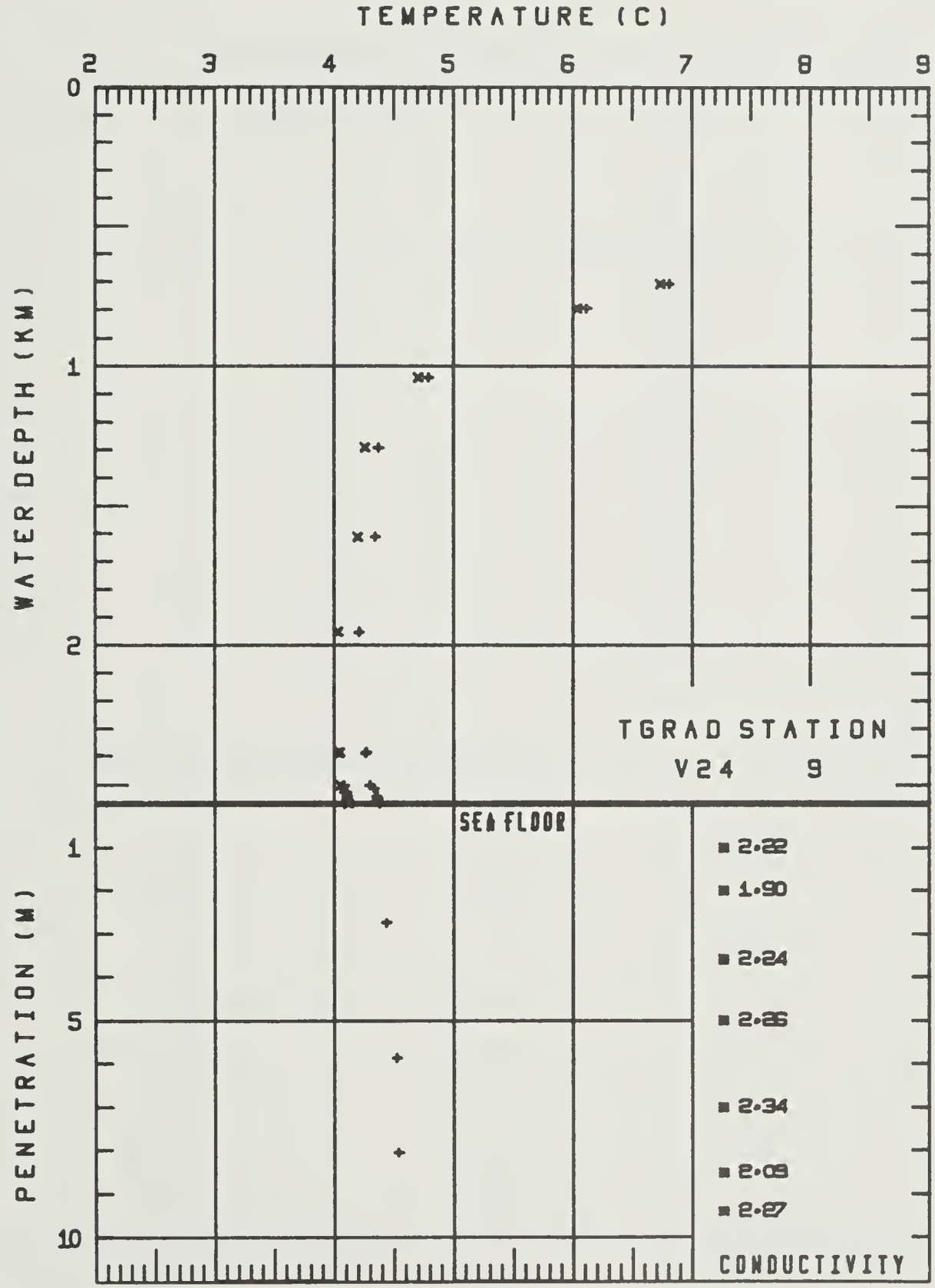
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
705.	6.80	6.73
793.	6.11	6.04
1040.	4.80	4.71
1293.	4.37	4.26
1613.	4.35	4.20
1950.	4.21	4.03
2385.	4.27	4.04
2382.	4.28	4.04
2501.	4.30	4.05
2539.	4.36	4.11
2512.	4.33	4.08
2549.	4.37	4.11
2567.	4.38	4.12

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.75	4.44
5.87	4.52
8.05	4.54

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.22
2.00	1.90
3.60	2.24
5.00	2.26
7.00	2.34
8.50	2.09
9.40	2.27


TEMPERATURE (C)
2
3
4
5
6
7
8
9
0
1
2
WATER DEPTH (KM)
TGRAD STATION
V24 9
SEA FLOOR
1
5
10
PENETRATION (M)
2.22
1.90
2.24
2.26
2.34
2.08
2.27
CONDUCTIVITY

TGRAD STATION V24-010

WATER TEMPERATURES

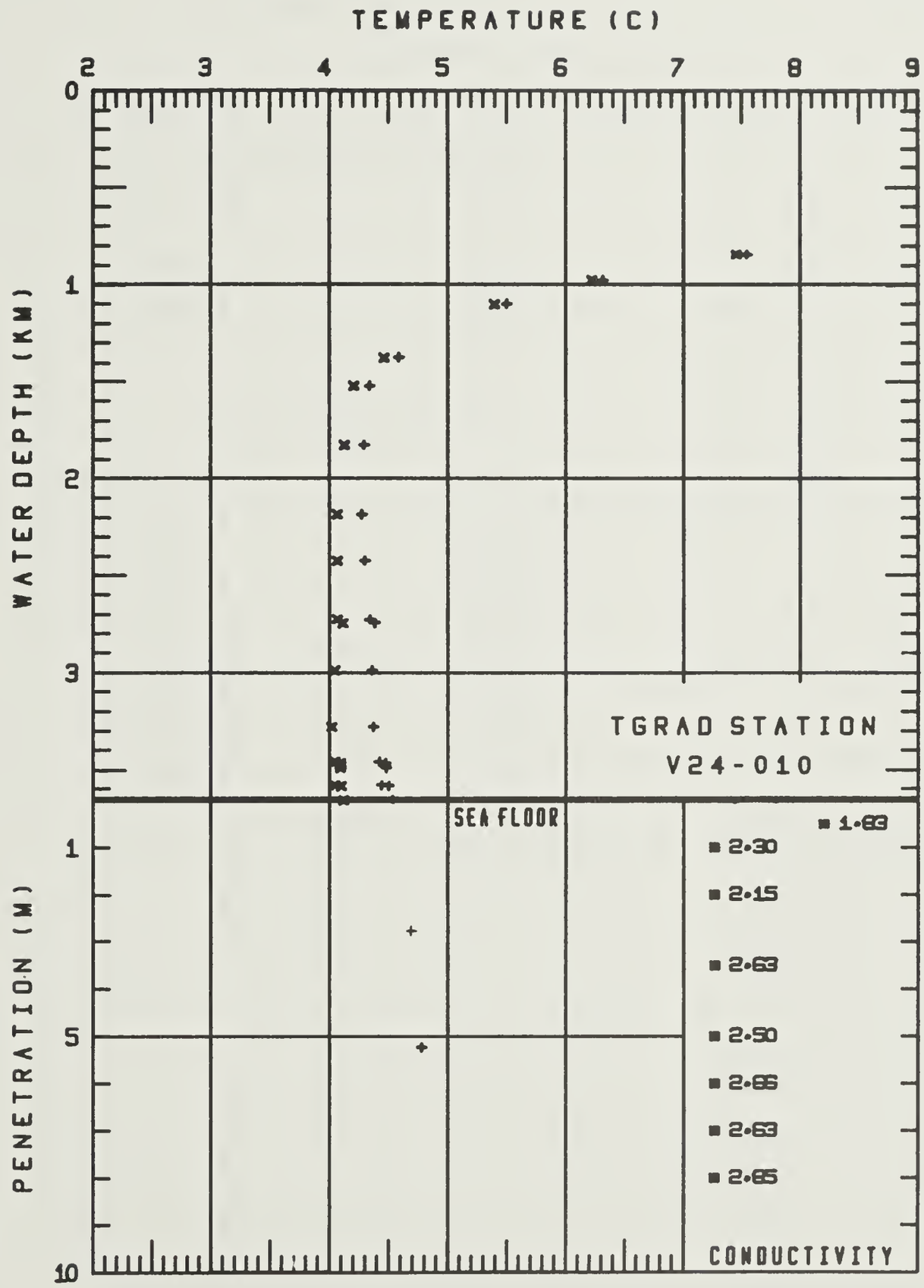
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
842.	7.54	7.45
976.	6.31	6.22
1099.	5.50	5.40
1374.	4.58	4.46
1521.	4.34	4.21
1824.	4.30	4.13
2179.	4.27	4.07
2421.	4.30	4.07
2744.	4.39	4.11
2720.	4.34	4.06
2984.	4.36	4.05
3279.	4.37	4.02
3491.	4.48	4.09
3466.	4.47	4.09
3476.	4.47	4.09
3459.	4.42	4.05
3581.	4.50	4.10
3577.	4.44	4.05
3656.	4.53	4.12

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.80	4.68
5.23	4.78

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.50	1.83
1.00	2.30
2.00	2.15
3.50	2.63
5.00	2.50
6.00	2.66
7.00	2.63
8.00	2.85


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
PENETRATION (M)
1
5
10
TGRAD STATION
V24-010
SEA FLOOR
1.88
2.30
2.15
2.63
2.50
2.66
2.63
2.65
CONDUCTIVITY

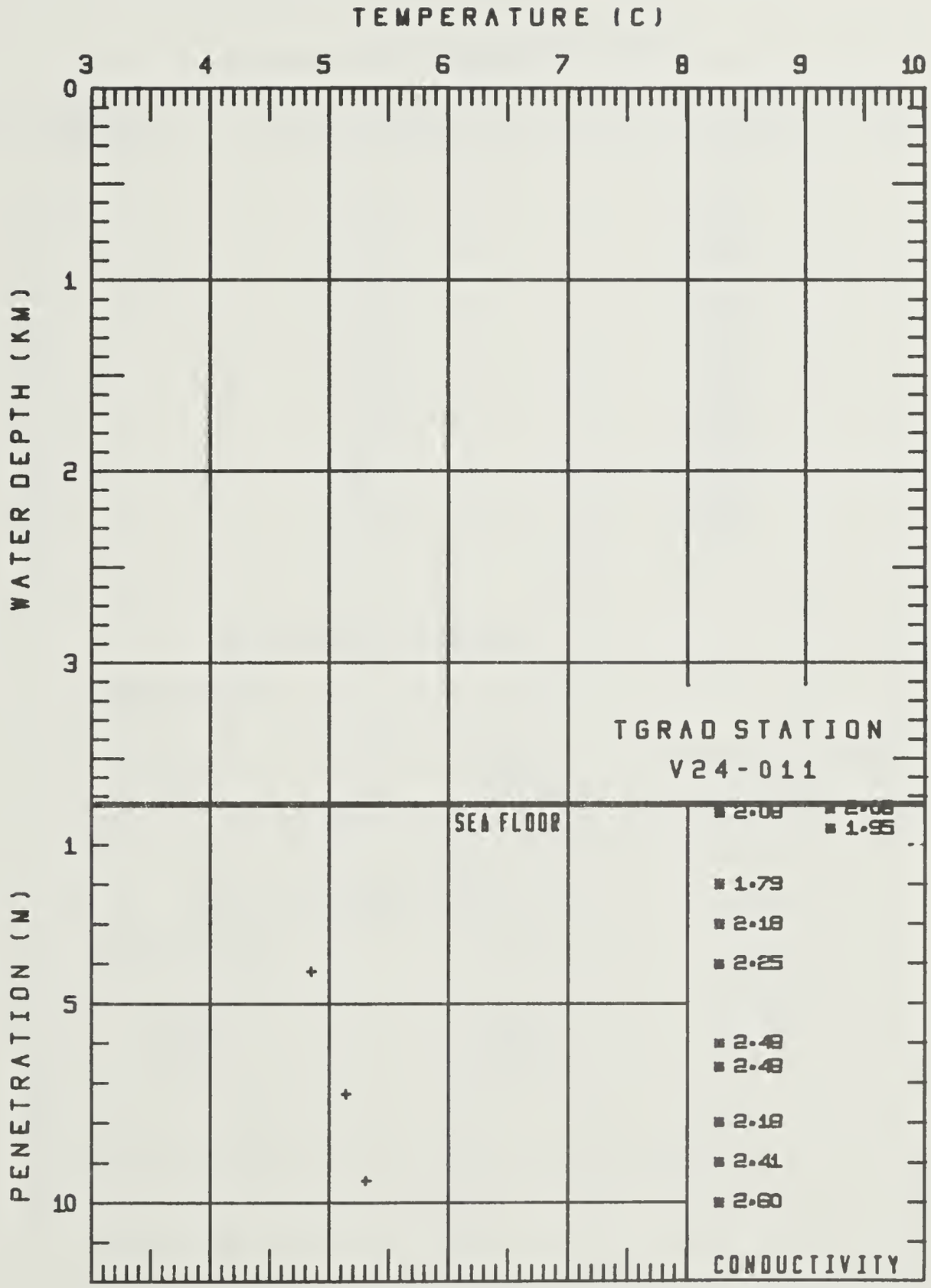
TGRAD STATIONV24-011

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.17	4.85
7.28	5.14
9.45	5.31

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.10	2.08
0.20	2.08
0.60	1.95
2.00	1.79
3.00	2.18
4.00	2.25
6.00	2.48
6.60	2.48
8.00	2.18
9.00	2.41
10.00	2.60


TEMPERATURE (C)
3
4
5
6
7
8
9
10
WATER DEPTH (KM)
0
1
2
3
PENETRATION (M)
1
5
10
TGRAD STATION
V24-011
SEA FLOOR
2.08
1.95
1.79
2.18
2.25
2.48
2.48
2.18
2.41
2.60
CONDUCTIVITY

TGRAD STATION V24-012

WATER TEMPERATURES

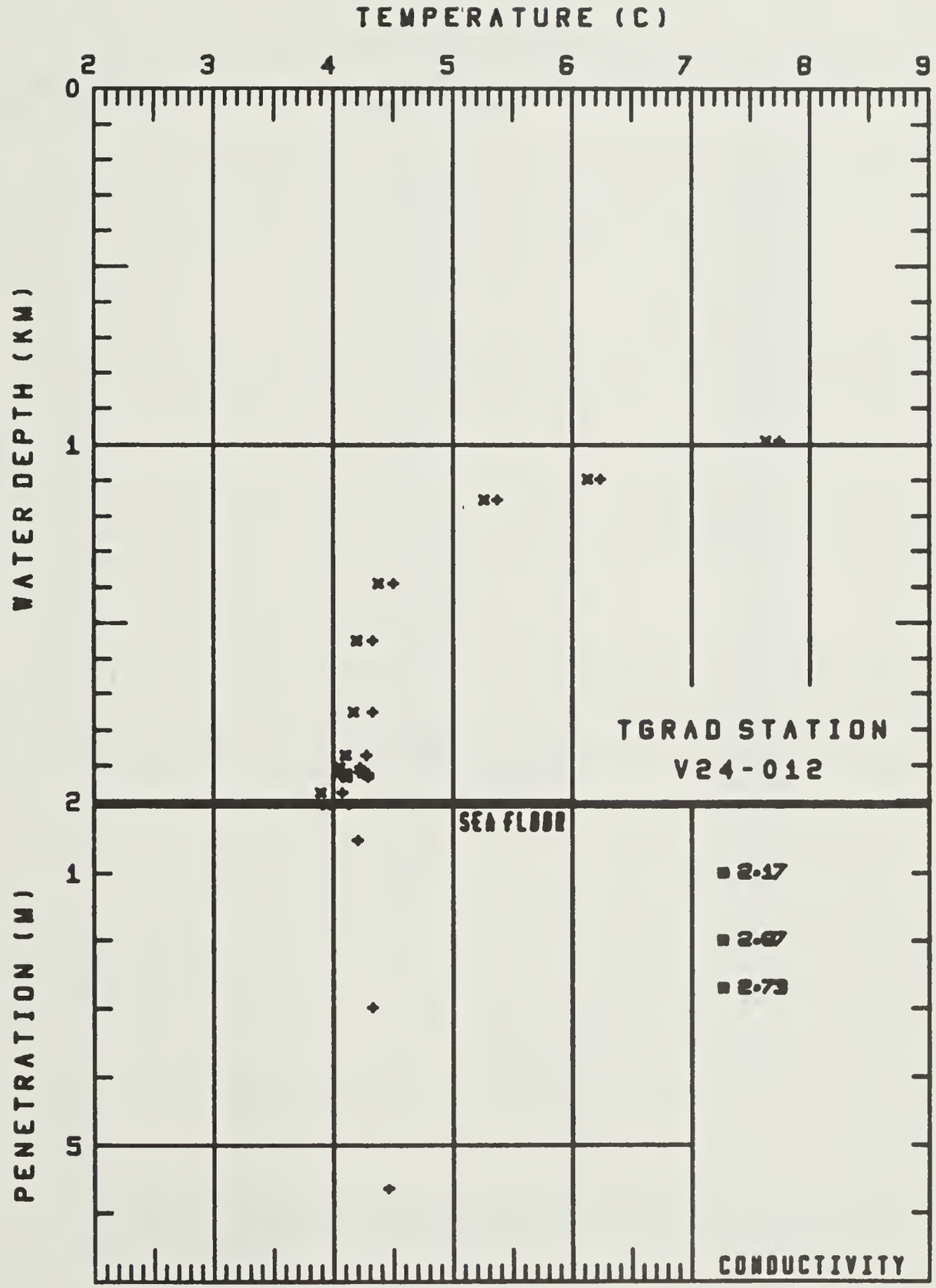
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
989.	7.74	7.63
1097.	6.24	6.13
1155.	5.36	5.26
1389.	4.50	4.38
1550.	4.33	4.19
1751.	4.32	4.17
1925.	4.26	4.09
1905.	4.22	4.05
1922.	4.28	4.11
1871.	4.27	4.10
1933.	4.28	4.11
1917.	4.21	4.04
1975.	4.07	3.89
2009.	4.13	3.94

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.52	4.20
2.98	4.33
5.64	4.46

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.17
2.00	2.87
2.70	2.73


TEMPERATURE (C)
2
3
4
5
6
7
8
9
0
1
2
WATER DEPTH (KM)
1
5
PENETRATION (M)
TGRAD STATION
V24-012
SEA FLOOR
2.17
2.67
2.73
CONDUCTIVITY

TGRAD STATION V24-013

WATER TEMPERATURES

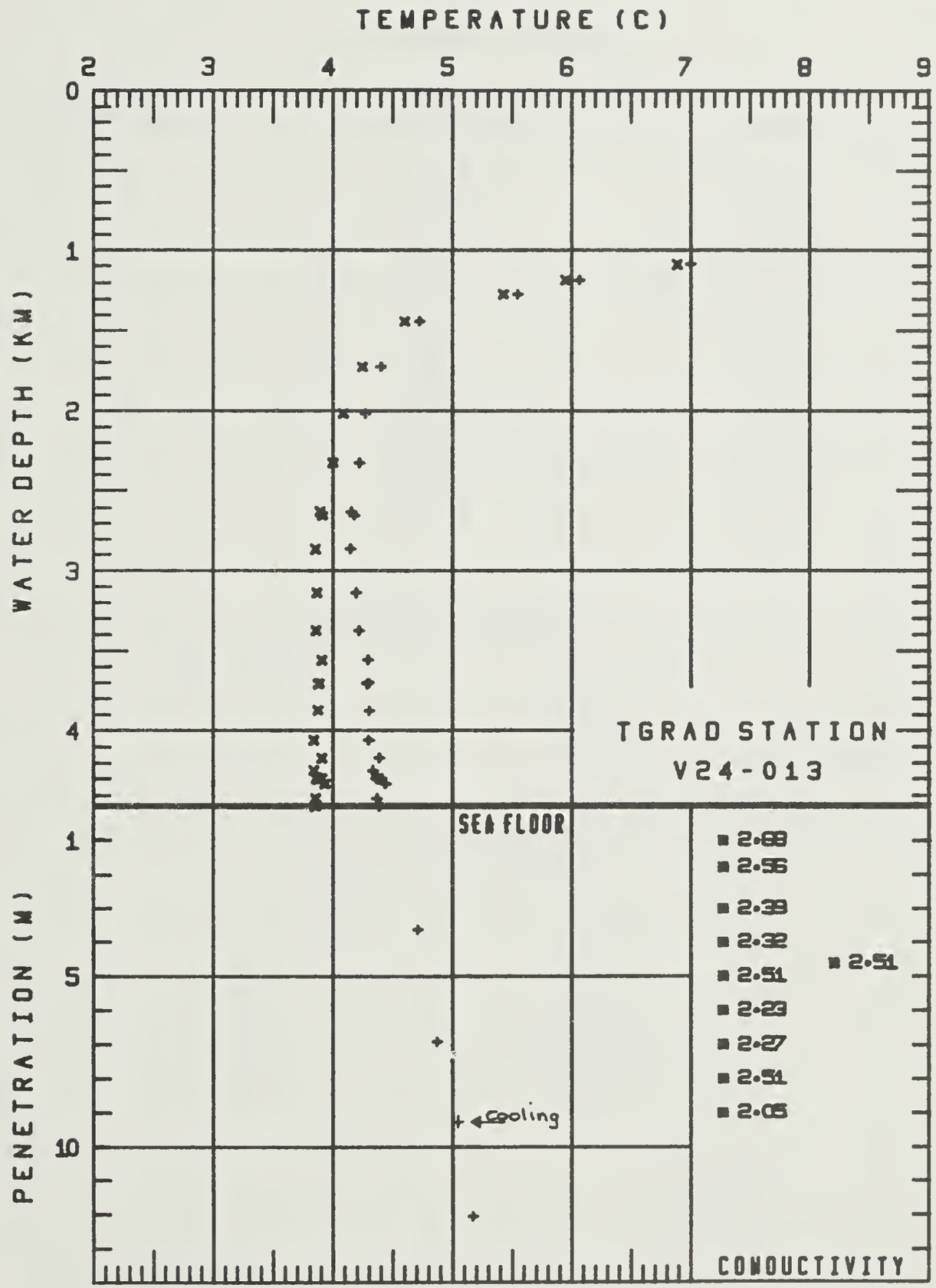
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1084.	6.99	6.88
1180.	6.06	5.94
1271.	5.54	5.42
1439.	4.72	4.59
1722.	4.39	4.24
2016.	4.27	4.08
2322.	4.22	3.99
2628.	4.14	3.89
2652.	4.17	3.91
2860.	4.14	3.85
3132.	4.18	3.86
3370.	4.21	3.85
3557.	4.28	3.90
3701.	4.29	3.88
3703.	4.28	3.87
3873.	4.30	3.86
4057.	4.30	3.83
4165.	4.38	3.90
4292.	4.36	3.86
4330.	4.43	3.93
4295.	4.37	3.87
4300.	4.37	3.87
4296.	4.40	3.90
4246.	4.32	3.83
4294.	4.35	3.85
4418.	4.36	3.84
4460.	4.38	3.85
4470.	4.38	3.85

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.64	4.71
6.91	4.87
9.40	5.05
12.04	5.17

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.68
1.80	2.56
3.00	2.39
4.00	2.32
4.60	2.51
5.00	2.51
6.00	2.23
7.00	2.27
8.00	2.51
9.00	2.05


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-013
SEA FLOOR
PENETRATION (M)
1
5
10
2.88
2.56
2.39
2.32
2.51
2.23
2.27
2.51
2.05
2.51
Cooling
CONDUCTIVITY

TGRAC STATION V24-014

WATER TEMPERATURES

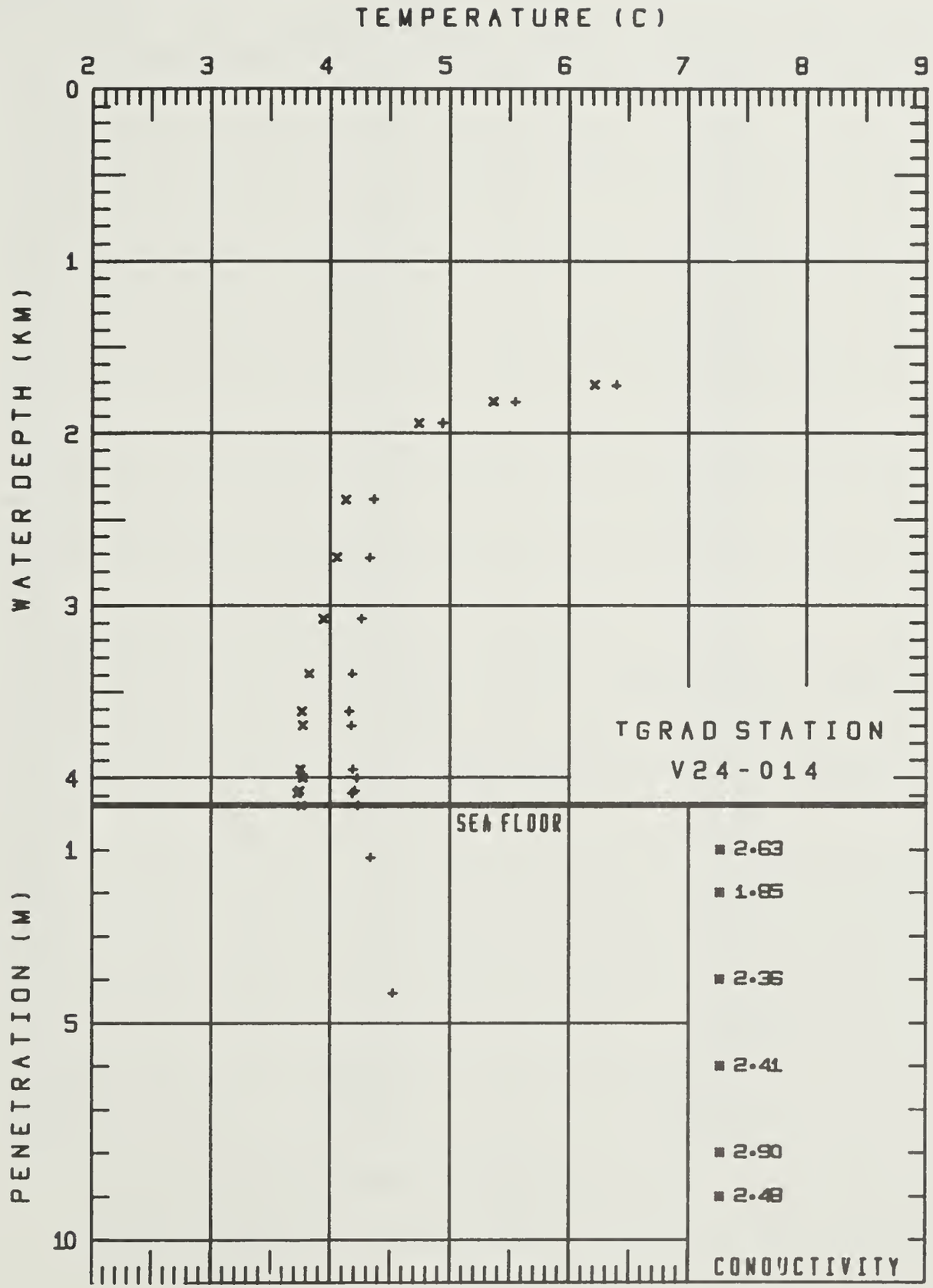
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1715.	6.39	6.20
1810.	5.54	5.36
1937.	4.93	4.74
2380.	4.36	4.13
2720.	4.32	4.05
3072.	4.26	3.94
3394.	4.18	3.82
3609.	4.15	3.76
3691.	4.17	3.77
3950.	4.18	3.74
4000.	4.22	3.77
4074.	4.20	3.74
4087.	4.18	3.72
4160.	4.22	3.75

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.19	4.34
4.30	4.52

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.63
2.00	1.85
4.00	2.36
6.00	2.41
8.00	2.90
9.00	2.48


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-014
SEA FLOOR
PENETRATION (M)
1
5
10
2.63
1.85
2.36
2.41
2.90
2.48
CONDUCTIVITY

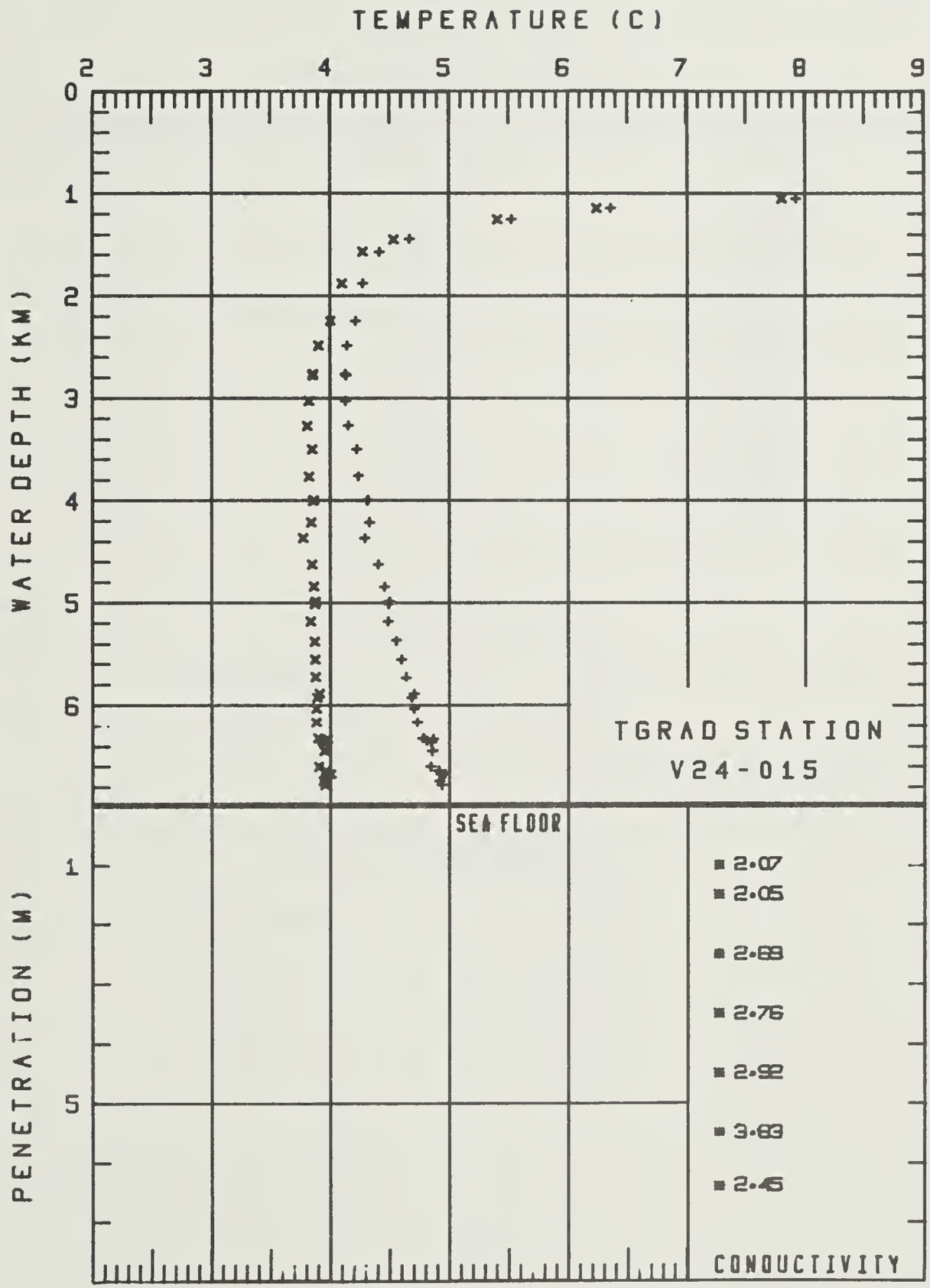
TGRAD STATION V24-015

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1049.	7.92	7.80
1136.	6.35	6.24
1245.	5.52	5.40
1443.	4.67	4.54
1564.	4.42	4.27
1876.	4.27	4.10
2239.	4.21	4.00
2482.	4.14	3.90
2760.	4.13	3.85
2772.	4.13	3.85
3020.	4.13	3.82
3263.	4.15	3.81
3492.	4.22	3.85
3760.	4.23	3.82
4002.	4.30	3.85
3990.	4.31	3.86
4212.	4.33	3.84
4363.	4.28	3.78
4623.	4.40	3.85
4837.	4.45	3.86
5005.	4.49	3.86
4987.	4.49	3.87
5178.	4.48	3.83
5375.	4.55	3.86
5551.	4.59	3.87
5719.	4.63	3.88
5918.	4.68	3.89
5882.	4.70	3.91
6027.	4.70	3.88
6166.	4.72	3.88
6357.	4.85	3.96
6315.	4.77	3.89
6323.	4.86	3.97
6338.	4.80	3.92
6443.	4.85	3.94
6593.	4.84	3.90
6631.	4.91	3.96
6668.	4.96	4.00
6666.	4.93	3.97
6735.	4.91	3.94
6775.	4.94	3.96

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.07
1.50	2.05
2.50	2.69
3.50	2.76
4.50	2.92
5.50	3.83
6.40	2.45


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
4
5
6
TGRAD STATION
V24-015
SEA FLOOR
PENETRATION (M)
1
5
2.07
2.05
2.88
2.76
2.92
3.83
2.45
CONDUCTIVITY

IGRAC STATION V24-016

WATER TEMPERATURES

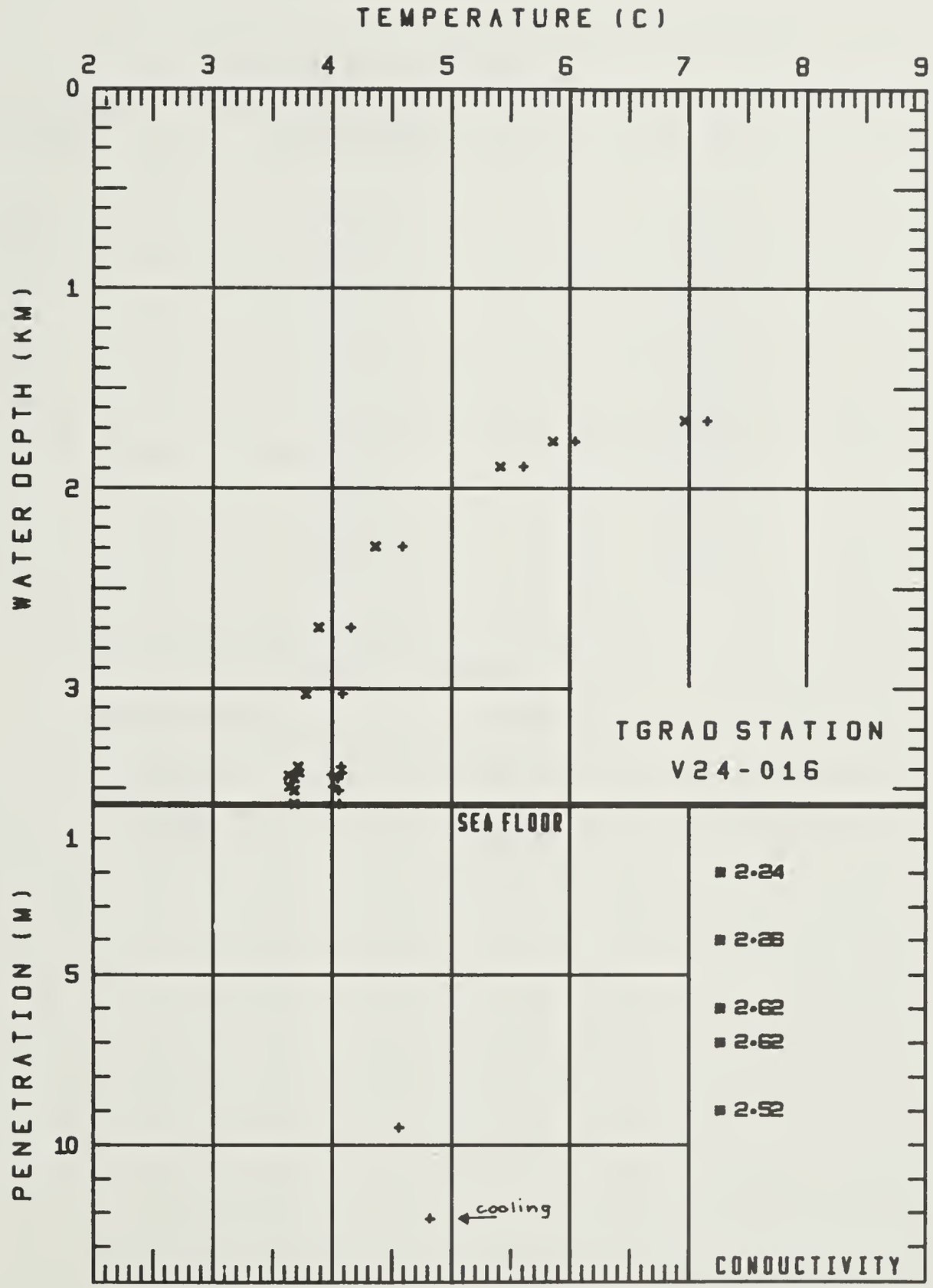
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1658.	7.15	6.96
1764.	6.04	5.85
1891.	5.60	5.41
2290.	4.59	4.36
2697.	4.15	3.88
3029.	4.08	3.78
3435.	3.99	3.63
3425.	4.08	3.72
3451.	4.05	3.68
3391.	4.07	3.72
3490.	4.01	3.64
3510.	4.05	3.68
3579.	4.06	3.68

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
9.50	4.56
12.15	4.82

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
2.00	2.24
4.00	2.26
6.00	2.62
7.00	2.62
9.00	2.52


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-016
SEA FLOOR
PENETRATION (M)
1
5
10
2·24
2·28
2·62
2·62
2·52
cooling
CONDUCTIVITY

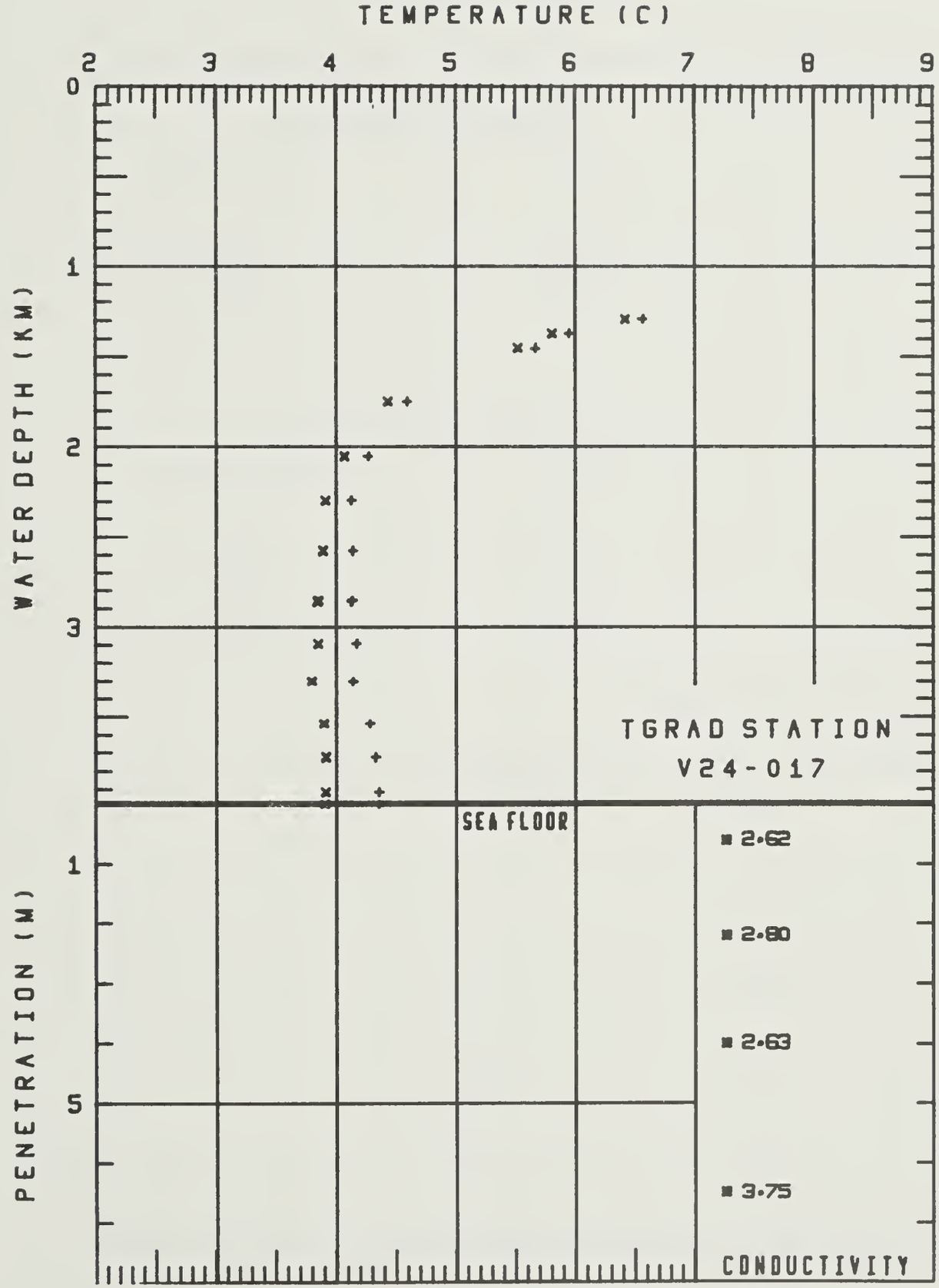
TGRAD STATION V24-017

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1294.	6.56	6.42
1371.	5.95	5.81
1451.	5.67	5.52
1748.	4.60	4.43
2055.	4.26	4.07
2298.	4.13	3.91
2574.	4.14	3.89
2860.	4.13	3.84
2852.	4.14	3.85
3095.	4.17	3.85
3302.	4.14	3.80
3538.	4.28	3.90
3722.	4.33	3.92
3914.	4.36	3.92
3982.	4.36	3.91

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.60	2.62
2.20	2.80
4.00	2.63
6.50	3.75


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-017
SEA FLOOR
PENETRATION (M)
1
5
= 2.62
= 2.80
= 2.63
= 3.75
CONDUCTIVITY

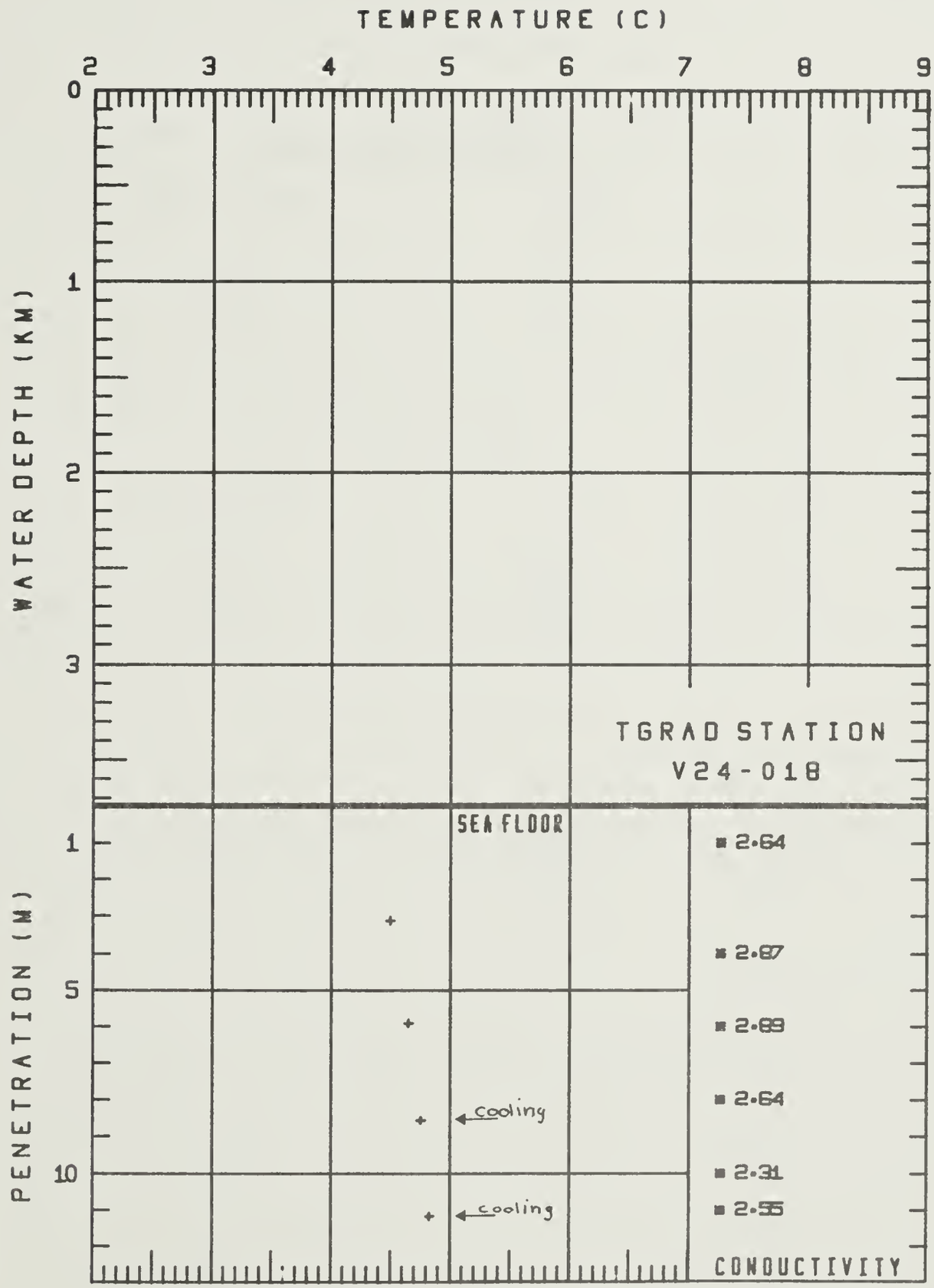
TGRAD STATIONV24-018

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.13	4.50
5.92	4.64
8.56	4.75
11.19	4.83

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.64
4.00	2.87
6.00	2.89
8.00	2.64
10.00	2.31
11.00	2.55


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-018
PENETRATION (M)
SEA FLOOR
1
5
10
cooling
cooling
2.64
2.87
2.88
2.64
2.31
2.55
CONDUCTIVITY

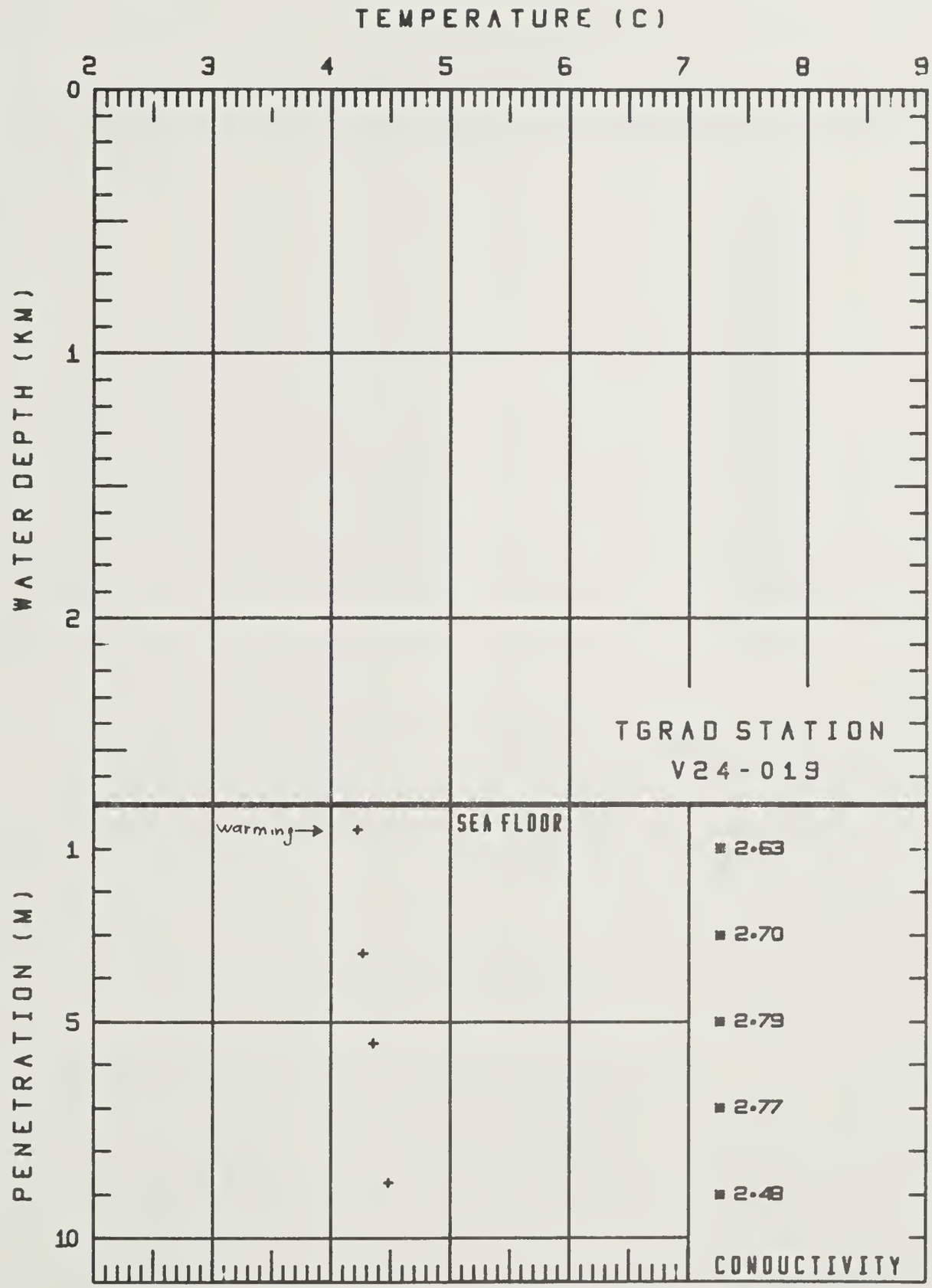
TGRAD STATIONV24-019

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.56	4.22
3.43	4.26
5.50	4.35
8.72	4.48

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.63
3.00	2.70
5.00	2.79
7.00	2.77
9.00	2.48


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-019
PENETRATION (M)
1
5
10
warming→
SEA FLOOR
■ 2.63
■ 2.70
■ 2.79
■ 2.77
■ 2.48
CONDUCTIVITY

TGRAD STATION V24 20

WATER TEMPERATURES

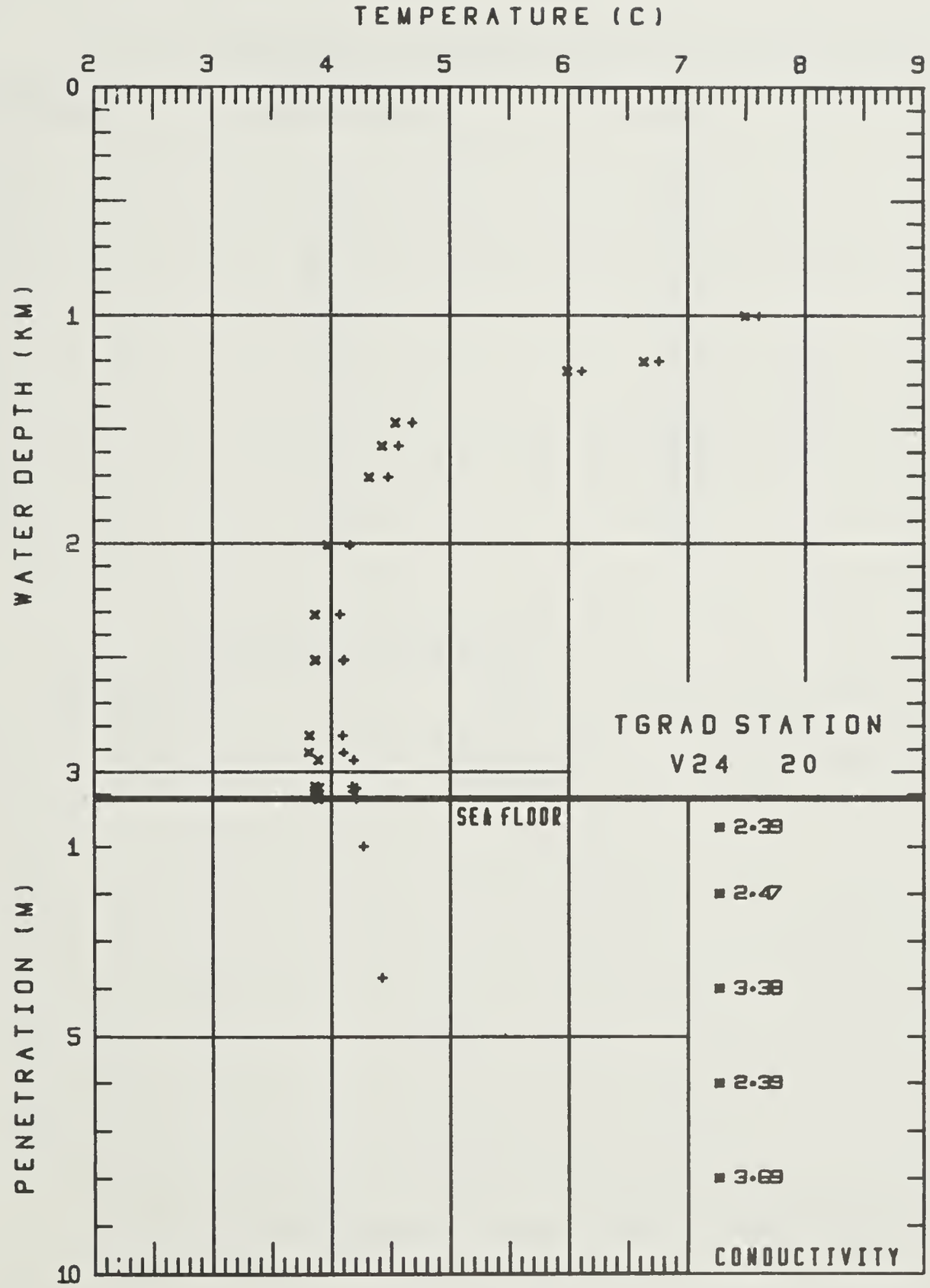
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1002.	7.60	7.49
1201.	6.76	6.63
1243.	6.11	5.98
1471.	4.68	4.54
1573.	4.57	4.43
1708.	4.48	4.32
2007.	4.15	3.97
2310.	4.07	3.86
2512.	4.10	3.86
2511.	4.11	3.87
2842.	4.10	3.81
2948.	4.19	3.89
2915.	4.10	3.81
3070.	4.21	3.89
3065.	4.17	3.86
3084.	4.18	3.86
3119.	4.21	3.89

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.00	4.27
3.77	4.43

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.60	2.39
2.00	2.47
4.00	3.38
6.00	2.39
8.00	3.69


TEMPERATURE (C)
2
3
4
5
6
7
8
9
0
1
2
3
WATER DEPTH (KM)
TGRAD STATION
V24 20
SEA FLOOR
1
5
10
PENETRATION (M)
■ 2·38
■ 2·47
■ 3·38
■ 2·38
■ 3·68
CONDUCTIVITY

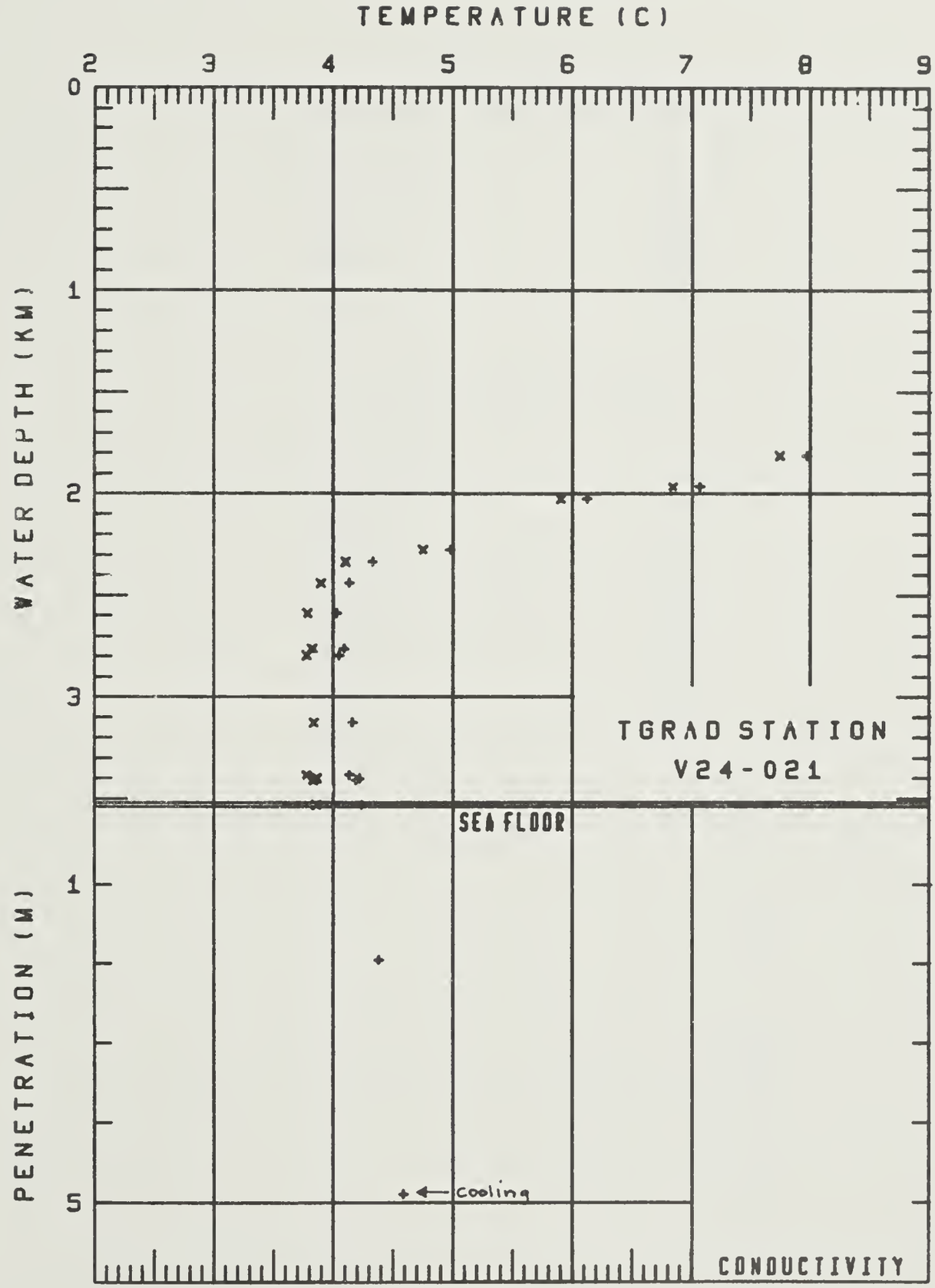
TGRAD STATION V24-021

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1811.	7.96	7.74
1965.	7.07	6.84
2024.	6.12	5.90
2272.	4.98	4.74
2334.	4.33	4.10
2440.	4.13	3.90
2589.	4.03	3.78
2793.	4.05	3.77
2760.	4.09	3.82
3125.	4.16	3.83
3382.	4.13	3.77
3399.	4.22	3.86
3397.	4.21	3.85
3406.	4.19	3.83
3528.	4.23	3.85

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.95	4.38
4.89	4.59


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-021
SEA FLOOR
PENETRATION (M)
1
5
cooling
CONDUCTIVITY

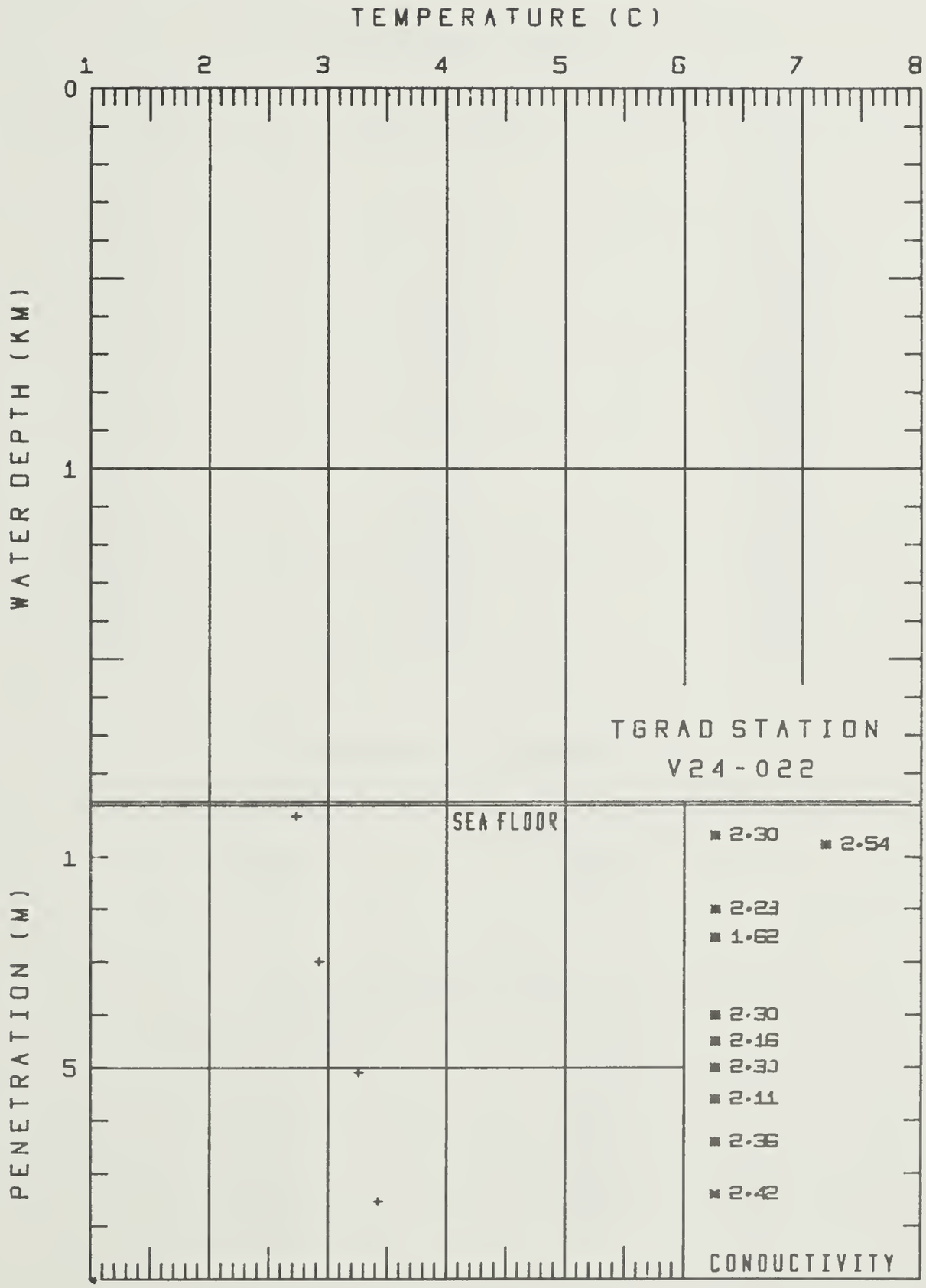
TGRAD STATIONV24-022

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.24	2.73
2.99	2.93
5.09	3.26
7.53	3.43

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.60	2.30
0.78	2.54
2.00	2.23
2.53	1.62
4.00	2.30
4.50	2.16
5.00	2.30
5.60	2.11
6.40	2.36
7.40	2.42


TEMPERATURE (C)
1
2
3
4
5
6
7
8
0
1
WATER DEPTH (KM)
TGRAD STATION
V24-022
SEA FLOOR
1
5
PENETRATION (M)
2.30
2.54
2.23
1.82
2.30
2.16
2.30
2.11
2.36
2.42
CONDUCTIVITY

TGRAD STATION V24 23

WATER TEMPERATURES

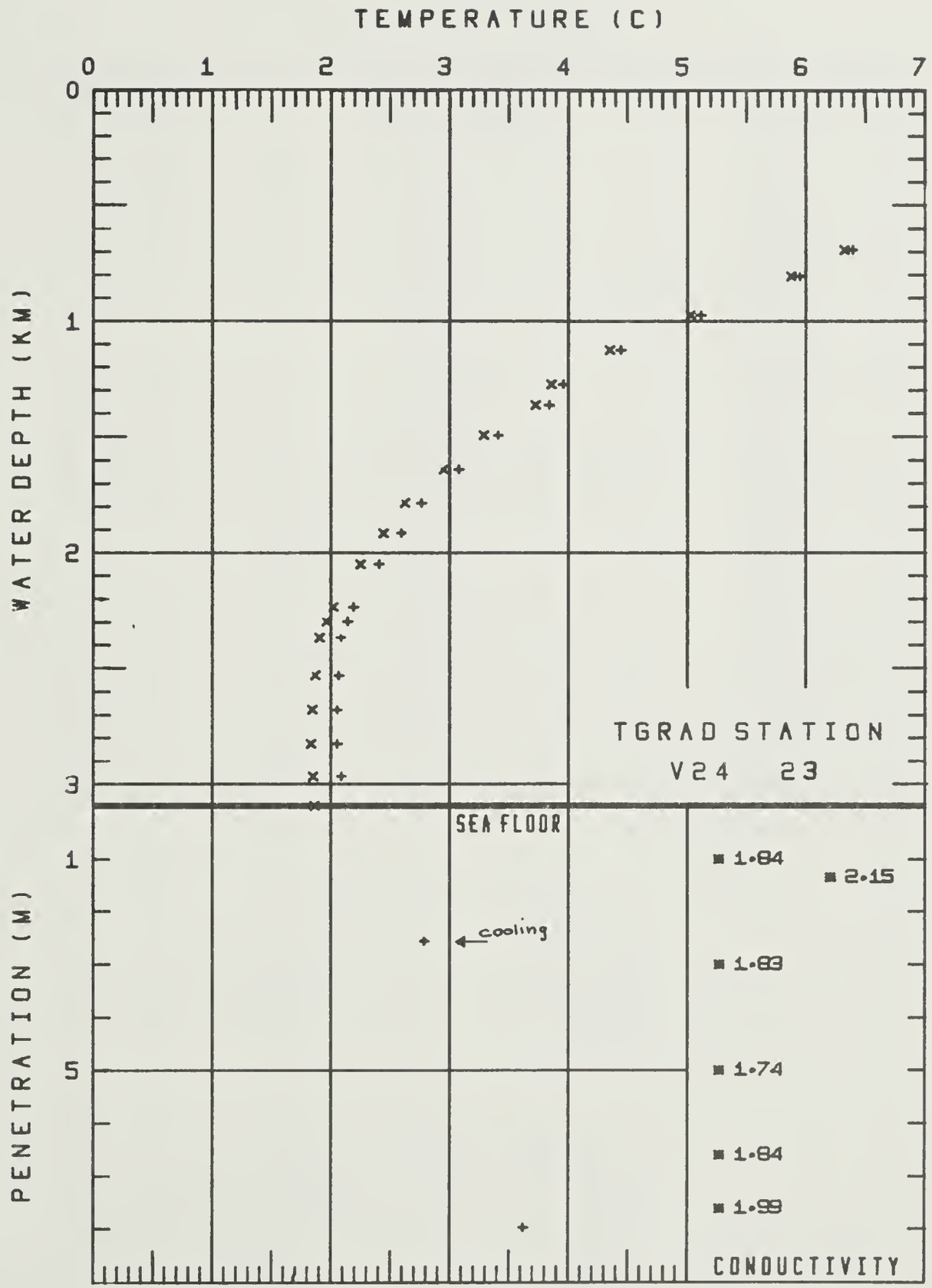
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
689.	6.39	6.32
804.	5.95	5.88
973.	5.11	5.02
1125.	4.44	4.35
1273.	3.96	3.85
1362.	3.83	3.72
1493.	3.41	3.29
1641.	3.07	2.95
1782.	2.76	2.62
1915.	2.59	2.44
2049.	2.40	2.24
2233.	2.19	2.02
2295.	2.14	1.96
2365.	2.08	1.90
2529.	2.06	1.87
2677.	2.05	1.84
2824.	2.05	1.82
2965.	2.09	1.84
3093.	2.12	1.86

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.57	2.79
7.97	3.62

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.84
1.35	2.15
3.00	1.83
5.00	1.74
6.60	1.84
7.60	1.99


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24 23
SEA FLOOR
PENETRATION (M)
1
5
cooling
1.84
2.15
1.83
1.74
1.84
1.99
CONDUCTIVITY

TGRAD STATION V24-024

WATER TEMPERATURES

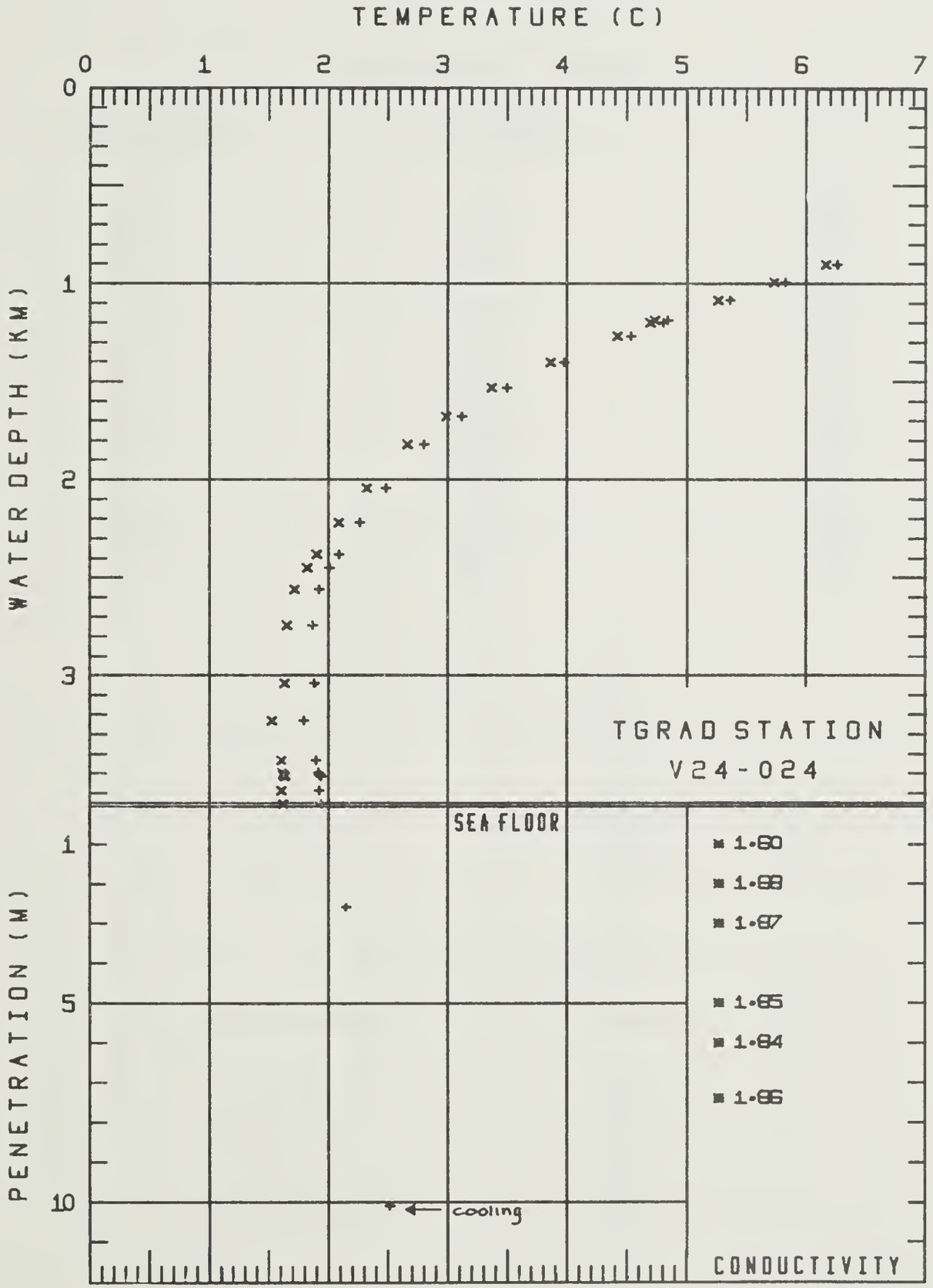
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
903.	6.25	6.16
992.	5.82	5.73
1084.	5.36	5.26
1186.	4.84	4.73
1201.	4.80	4.69
1270.	4.53	4.42
1402.	3.98	3.86
1532.	3.49	3.37
1678.	3.12	2.99
1821.	2.80	2.66
2046.	2.48	2.32
2218.	2.26	2.09
2380.	2.08	1.90
2452.	2.01	1.82
2559.	1.92	1.72
2743.	1.87	1.65
3039.	1.88	1.63
3230.	1.79	1.53
3433.	1.90	1.60
3507.	1.92	1.62
3516.	1.94	1.63
3506.	1.93	1.63
3496.	1.91	1.61
3589.	1.92	1.61
3658.	1.94	1.62

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.57	2.15
10.09	2.51

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.60
2.00	1.68
3.00	1.87
5.00	1.85
6.00	1.84
7.40	1.86


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-024
SEA FLOOR
1.80
1.88
1.87
1.85
1.84
1.86
cooling
CONDUCTIVITY

TGRAD STATION V24 25

WATER TEMPERATURES

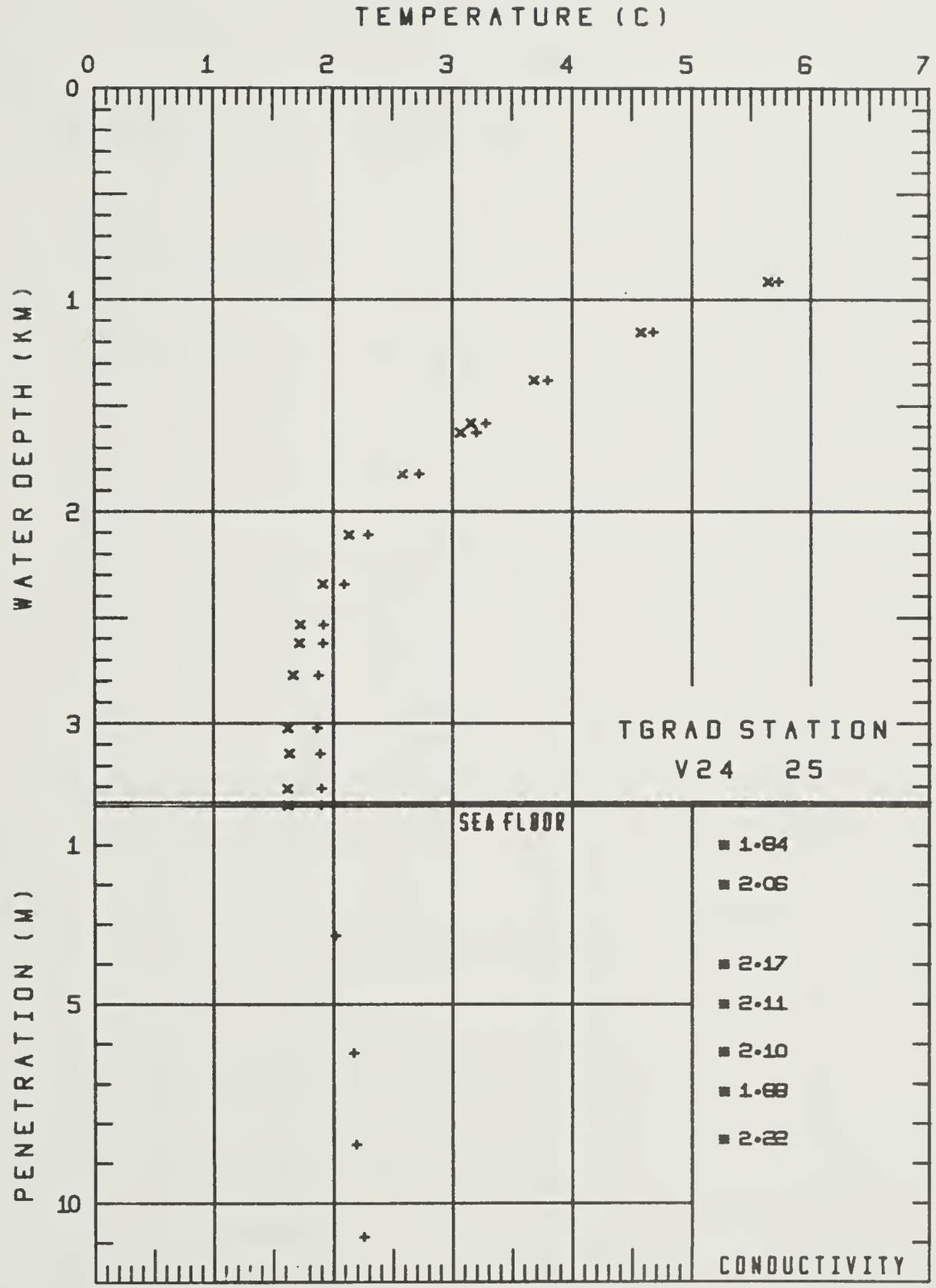
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
912.	5.72	5.64
1152.	4.67	4.57
1377.	3.79	3.68
1578.	3.28	3.15
1626.	3.20	3.07
1822.	2.72	2.58
2108.	2.29	2.13
2340.	2.10	1.92
2531.	1.92	1.72
2618.	1.92	1.72
2767.	1.88	1.66
3020.	1.87	1.62
3141.	1.89	1.63
3307.	1.90	1.62
3386.	1.90	1.62

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.28	2.02
6.21	2.17
8.51	2.19
10.83	2.25

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.84
2.00	2.06
4.00	2.17
5.00	2.11
6.20	2.10
7.20	1.88
8.40	2.22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1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24 25
SEA FLOOR
PENETRATION (M)
1
5
10
1.84
2.06
2.17
2.11
2.10
1.88
2.22
CONDUCTIVITY

TGRAD STATION V24 26

WATER TEMPERATURES

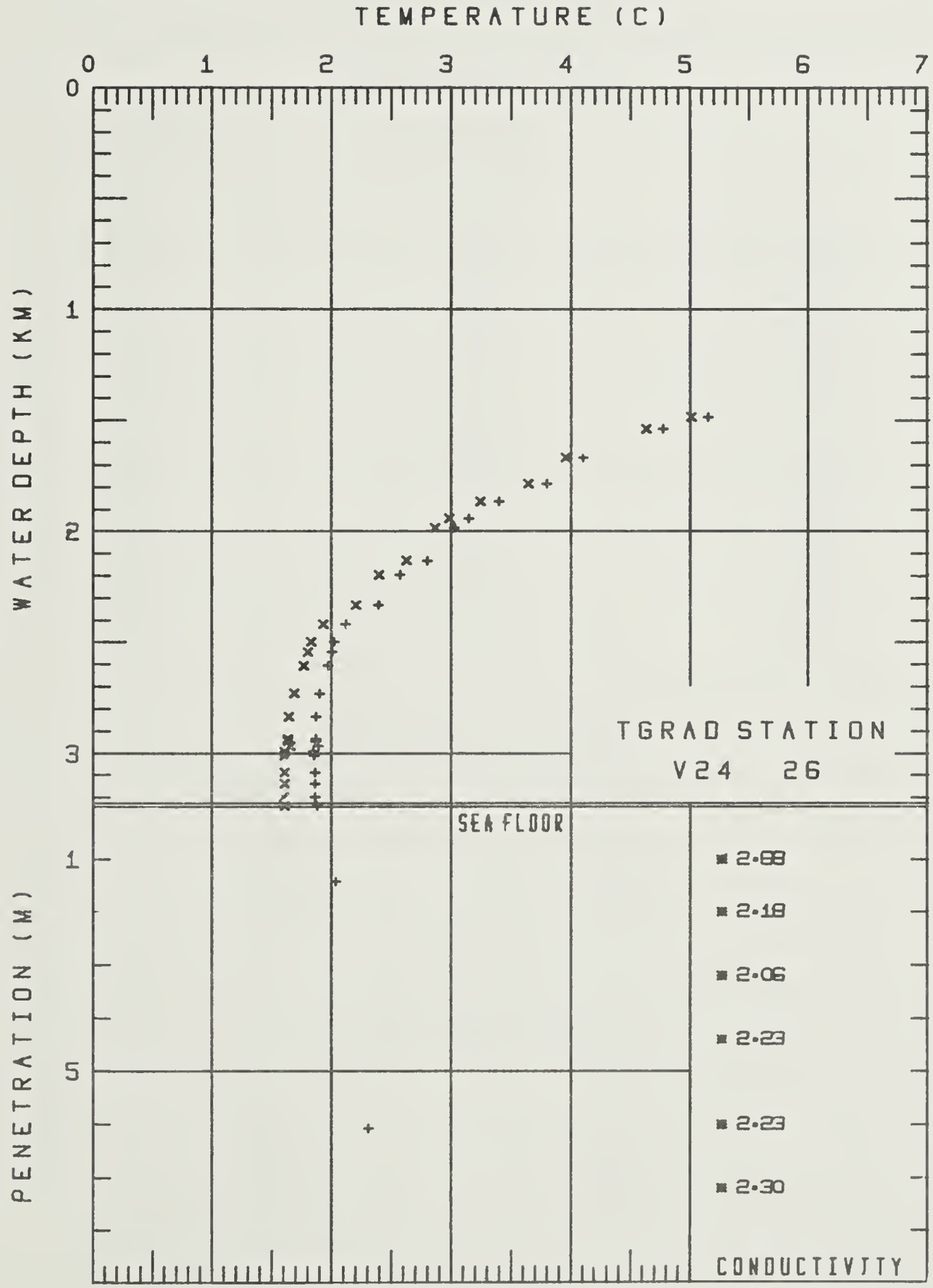
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1479.	5.14	5.00
1535.	4.77	4.63
1664.	4.10	3.96
1784.	3.80	3.64
1863.	3.40	3.24
1936.	3.14	2.98
1980.	3.02	2.86
2129.	2.79	2.62
2194.	2.56	2.39
2331.	2.39	2.20
2416.	2.11	1.93
2494.	2.02	1.82
2540.	2.00	1.80
2601.	1.97	1.77
2730.	1.90	1.69
2833.	1.87	1.64
2943.	1.87	1.63
2932.	1.87	1.63
2966.	1.89	1.65
2992.	1.85	1.61
3009.	1.85	1.61
3085.	1.86	1.61
3134.	1.86	1.60
3196.	1.86	1.60
3235.	1.88	1.61

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.42	2.03
6.07	2.31

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.68
2.00	2.18
3.20	2.06
4.40	2.23
6.00	2.23
7.20	2.30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WATER DEPTH (KM)
0
1
2
3
PENETRATION (M)
1
5
TGRAD STATION
V24 26
SEA FLOOR
2·88
2·18
2·06
2·23
2·23
2·30
CONDUCTIVITY

TGRAD STATION V24-027

WATER TEMPERATURES

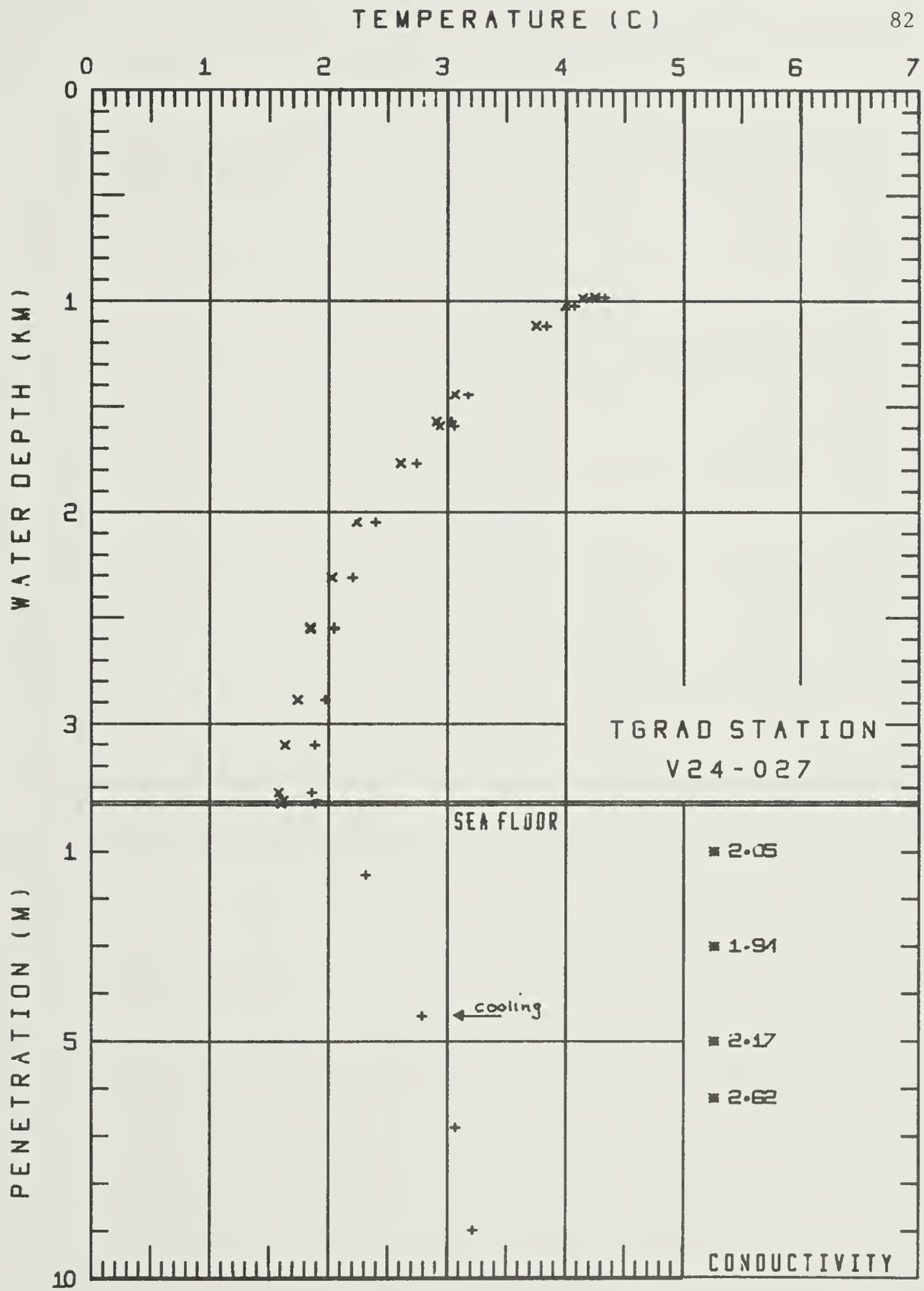
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
979.	4.33	4.25
983.	4.22	4.14
1019.	4.07	3.99
1114.	3.83	3.75
1441.	3.17	3.06
1590.	3.06	2.93
1567.	3.03	2.91
1769.	2.74	2.61
2045.	2.39	2.23
2307.	2.20	2.02
2543.	2.04	1.85
2550.	2.04	1.85
2886.	1.97	1.74
3099.	1.89	1.64
3323.	1.86	1.58
3376.	1.89	1.60
3360.	1.91	1.62

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.50	2.31
4.47	2.79
6.81	3.07
8.99	3.22

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.05
3.00	1.94
5.00	2.17
6.20	2.62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1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
cooling
TGRAD STATION
V24-027
■ 2.05
■ 1.94
■ 2.17
■ 2.62
CONDUCTIVITY
10

TGRAD STATION V24-028

WATER TEMPERATURES

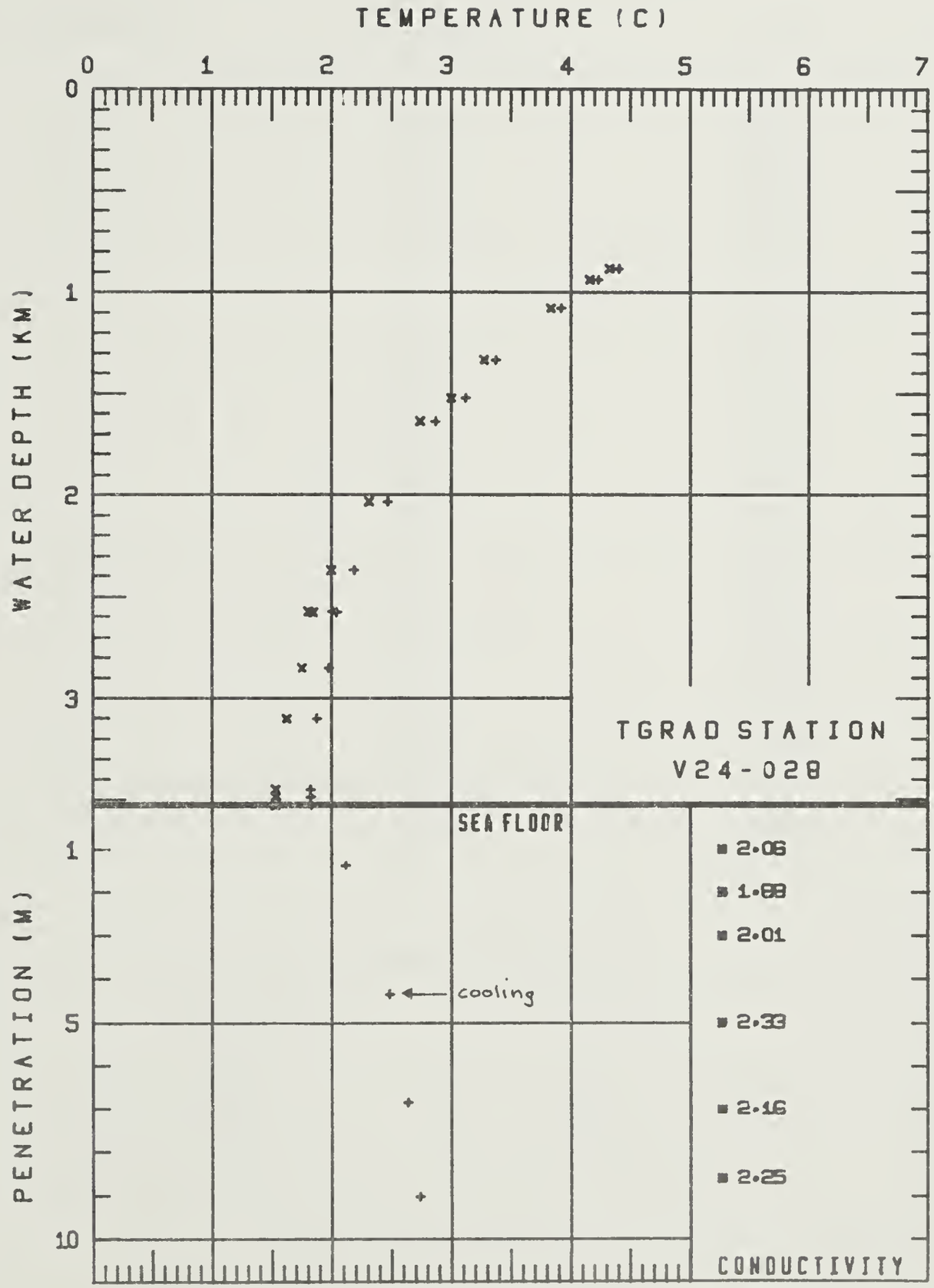
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
882.	4.39	4.32
936.	4.23	4.15
1079.	3.91	3.83
1331.	3.37	3.27
1521.	3.11	2.99
1633.	2.86	2.74
2031.	2.46	2.30
2368.	2.18	2.00
2573.	2.04	1.84
2572.	2.00	1.80
2849.	1.98	1.75
3101.	1.88	1.62
3450.	1.82	1.53
3486.	1.82	1.52
3527.	1.83	1.53

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.38	2.12
4.35	2.48
6.84	2.63
9.02	2.73

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.06
2.00	1.88
3.00	2.01
5.00	2.33
7.00	2.16
8.60	2.25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3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-028
SEA FLOOR
PENETRATION (M)
1
5
10
cooling
2.06
1.88
2.01
2.33
2.16
2.25
CONDUCTIVITY

TGRAD STATION V24 29

WATER TEMPERATURES

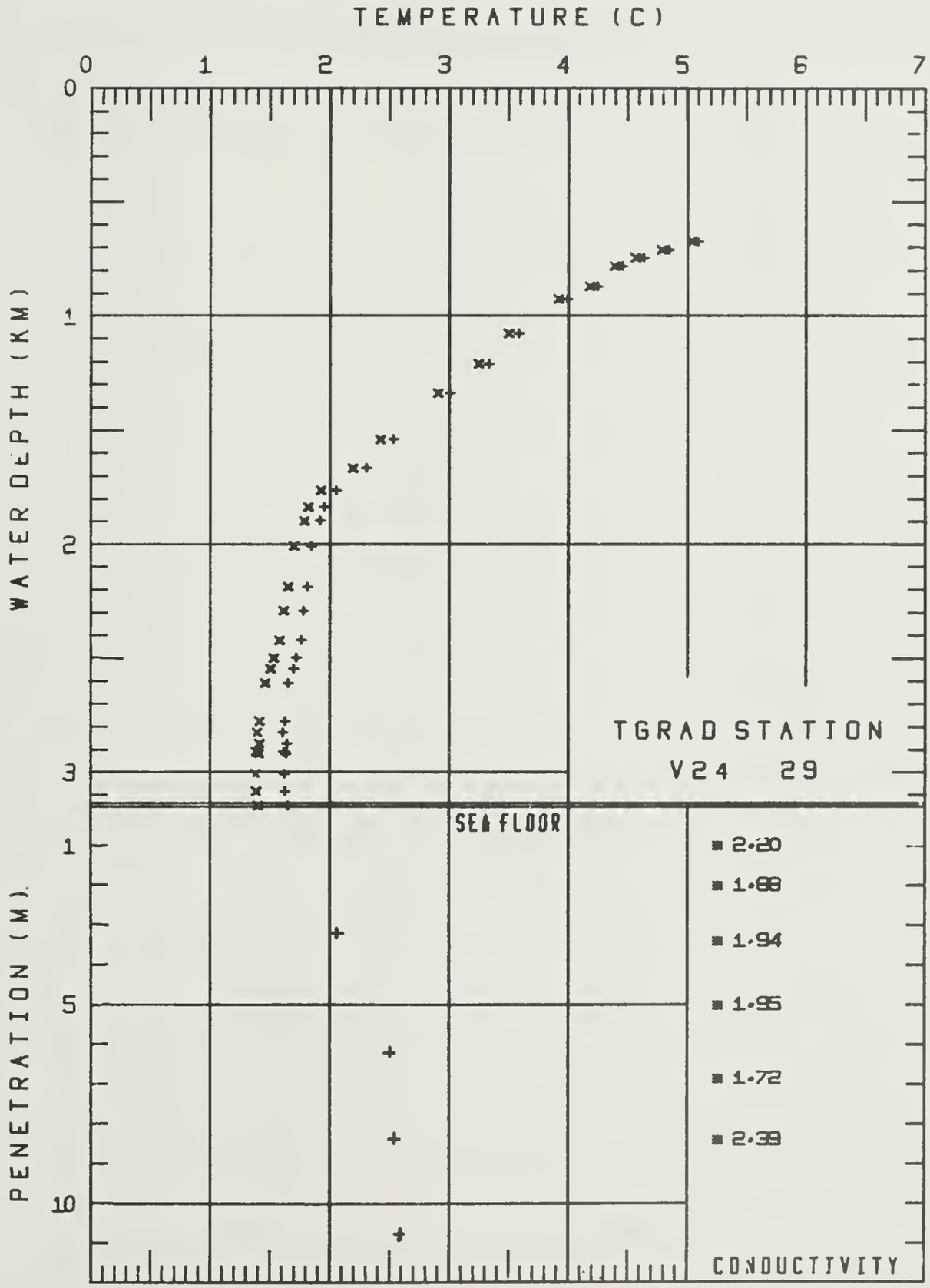
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
666.	5.10	5.04
707.	4.85	4.79
741.	4.64	4.58
780.	4.46	4.40
868.	4.25	4.18
923.	4.00	3.93
1073.	3.59	3.51
1204.	3.34	3.25
1335.	3.01	2.91
1536.	2.54	2.43
1662.	2.32	2.20
1761.	2.06	1.93
1834.	1.96	1.83
1891.	1.93	1.79
2006.	1.85	1.71
2184.	1.82	1.66
2289.	1.78	1.62
2418.	1.76	1.58
2493.	1.73	1.54
2542.	1.71	1.52
2606.	1.66	1.47
2773.	1.63	1.42
2822.	1.61	1.40
2871.	1.64	1.42
2908.	1.63	1.41
2915.	1.64	1.42
2903.	1.62	1.40
3003.	1.62	1.39
3080.	1.64	1.39
3143.	1.66	1.41

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.21	2.05
6.21	2.47
8.39	2.49
10.78	2.57

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.20
2.00	1.88
3.40	1.94
5.00	1.95
6.85	1.72
8.40	2.39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3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24 29
SEA FLOOR
PENETRATION (M)
1
5
10
2.20
1.88
1.94
1.95
1.72
2.38
CONDUCTIVITY

TGRAD STATION V24 30

WATER TEMPERATURES

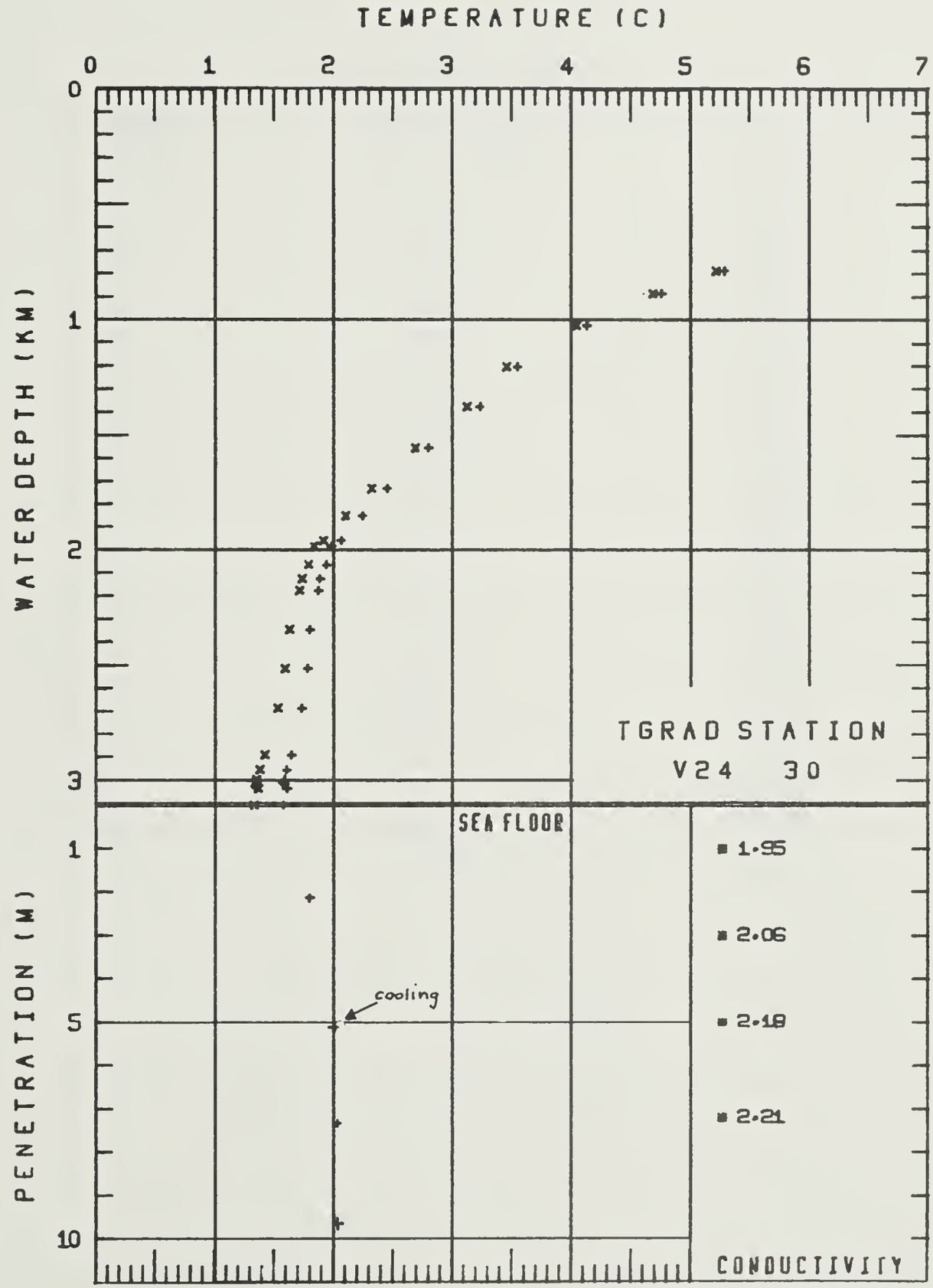
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
787.	5.28	5.21
887.	4.76	4.68
1026.	4.13	4.04
1204.	3.54	3.45
1379.	3.23	3.12
1557.	2.80	2.69
1734.	2.45	2.32
1851.	2.24	2.10
1959.	2.06	1.92
1981.	1.98	1.84
2061.	1.94	1.79
2121.	1.89	1.74
2176.	1.87	1.71
2342.	1.80	1.63
2512.	1.78	1.59
2684.	1.74	1.53
2890.	1.65	1.42
2950.	1.61	1.38
2996.	1.58	1.35
3017.	1.59	1.35
3033.	1.60	1.37
3001.	1.58	1.35
3011.	1.58	1.34
3107.	1.58	1.34

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.14	1.99
5.08	2.05
7.34	2.04
9.60	

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.95
3.00	2.06
5.00	2.18
7.20	2.21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1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24 30
SEA FLOOR
PENETRATION (M)
1
5
10
cooling
■ 1.95
■ 2.06
■ 2.18
■ 2.21
CONDUCTIVITY

TGRAD STATION V24-031

WATER TEMPERATURES

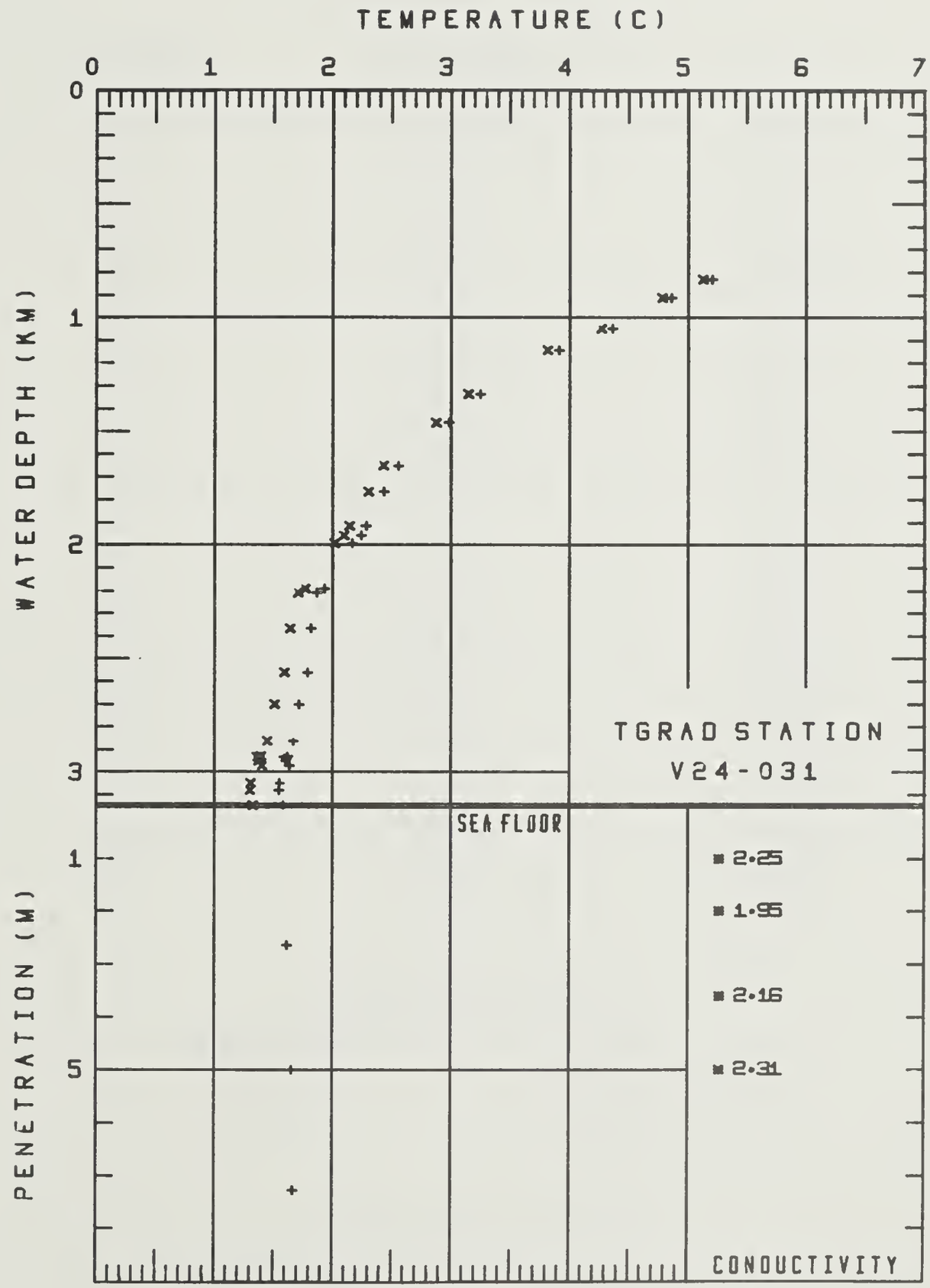
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
832.	5.20	5.13
913.	4.86	4.78
1050.	4.36	4.27
1143.	3.91	3.81
1335.	3.25	3.14
1461.	2.98	2.87
1651.	2.55	2.43
1764.	2.43	2.30
1914.	2.28	2.14
1958.	2.24	2.09
1992.	2.16	2.01
2192.	1.93	1.77
2209.	1.87	1.70
2366.	1.81	1.64
2558.	1.79	1.60
2701.	1.71	1.51
2863.	1.67	1.45
2934.	1.59	1.36
2969.	1.63	1.40
2941.	1.61	1.38
2928.	1.62	1.39
2931.	1.61	1.39
2950.	1.60	1.37
3048.	1.54	1.31
3079.	1.54	1.30
3145.	1.58	1.33

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.64	1.61
5.00	1.66
7.27	1.67

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.25
2.00	1.95
3.60	2.16
5.00	2.31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1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-031
SEA FLOOR
PENETRATION (M)
1
5
2.25
1.95
2.16
2.31
CONDUCTIVITY

TGRAD STATION V24-032

WATER TEMPERATURES

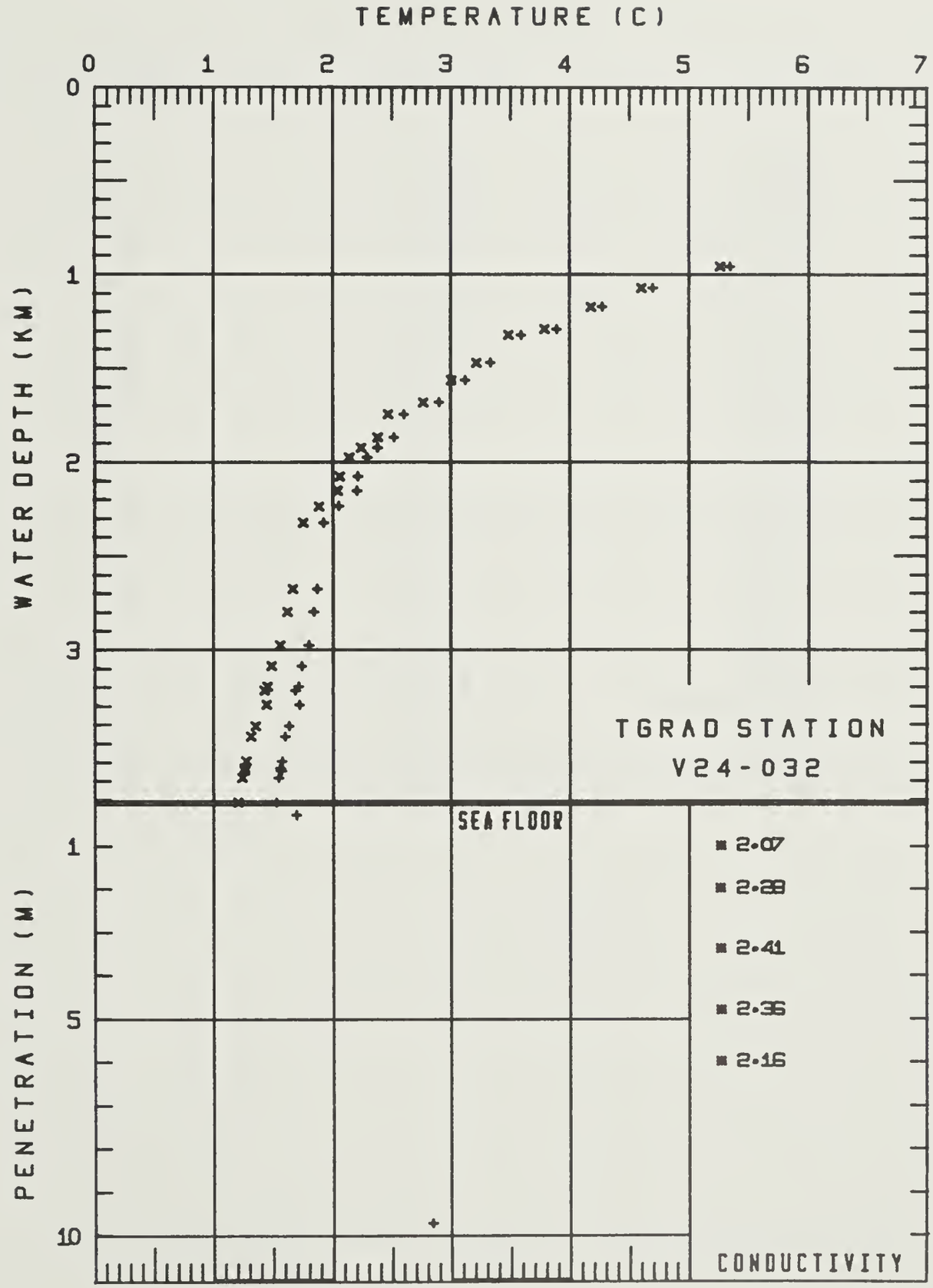
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
958.	5.34	5.26
1074.	4.69	4.60
1172.	4.27	4.17
1293.	3.89	3.78
1321.	3.59	3.48
1472.	3.33	3.21
1562.	3.12	3.00
1682.	2.89	2.76
1745.	2.60	2.47
1871.	2.52	2.38
1924.	2.38	2.24
1975.	2.29	2.14
2076.	2.21	2.06
2152.	2.20	2.04
2231.	2.06	1.89
2321.	1.93	1.76
2674.	1.88	1.67
2798.	1.84	1.62
2973.	1.80	1.56
3086.	1.74	1.49
3195.	1.71	1.45
3217.	1.68	1.42
3294.	1.72	1.45
3405.	1.63	1.35
3460.	1.60	1.32
3593.	1.57	1.27
3630.	1.56	1.26
3645.	1.56	1.26
3684.	1.55	1.24
3813.	1.53	1.21

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.30	1.70
9.72	2.84

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.07
2.00	2.28
3.40	2.41
4.80	2.36
6.00	2.16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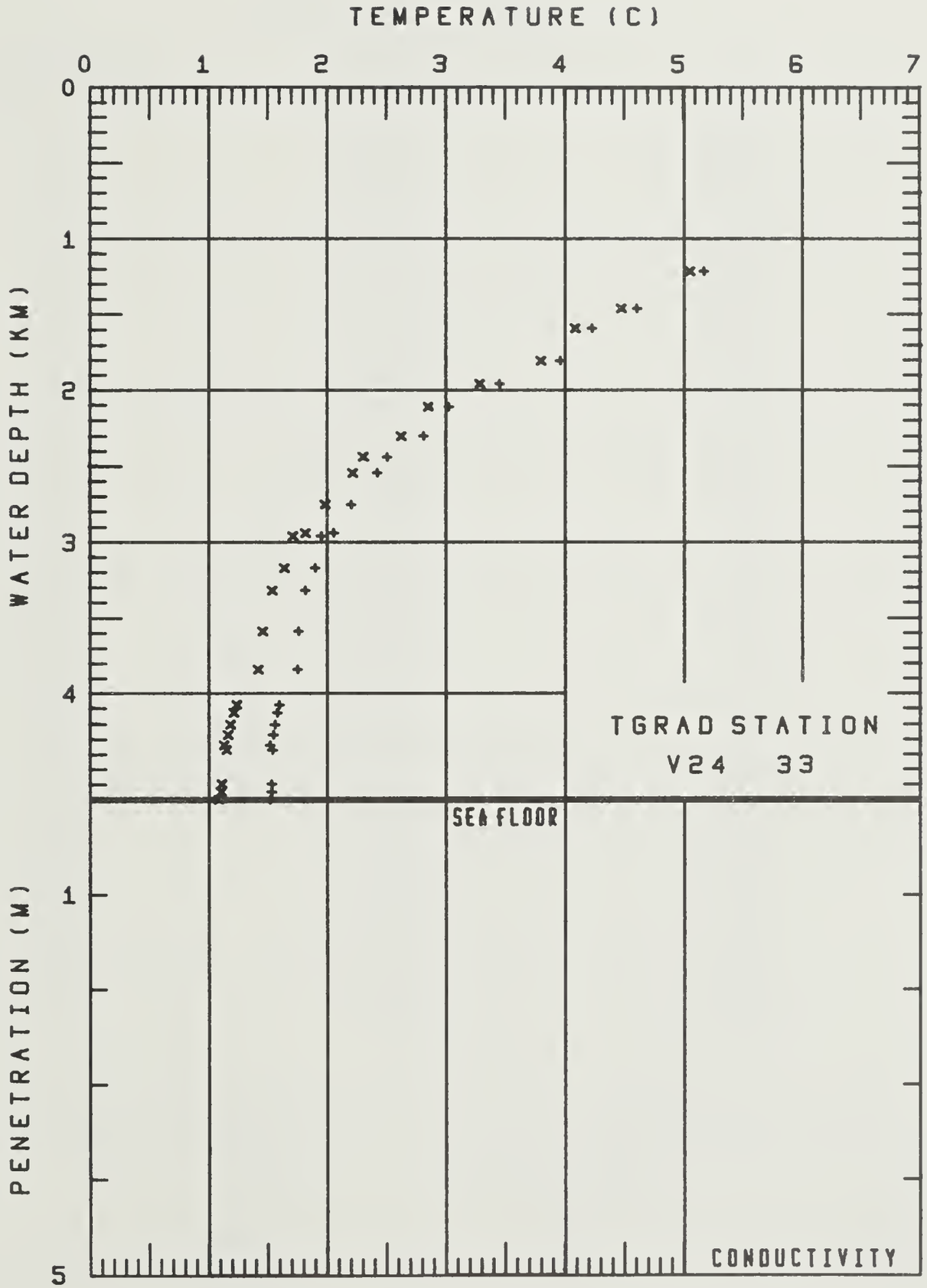
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-032
SEA FLOOR
2.07
2.28
2.41
2.36
2.16
CONDUCTIVITY

TGRAD STATION V24 33

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1216.	5.17	5.05
1463.	4.60	4.47
1591.	4.23	4.09
1806.	3.96	3.80
1955.	3.45	3.29
2109.	3.03	2.85
2303.	2.81	2.62
2439.	2.51	2.31
2544.	2.43	2.22
2751.	2.21	1.98
2940.	2.06	1.82
2962.	1.95	1.71
3167.	1.90	1.64
3317.	1.82	1.54
3584.	1.76	1.46
3835.	1.75	1.42
4069.	1.60	1.24
4122.	1.58	1.22
4204.	1.56	1.19
4270.	1.54	1.17
4339.	1.52	1.14
4367.	1.54	1.15
4592.	1.53	1.11
4647.	1.53	1.10
4698.	1.52	1.09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1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24 33
SEA FLOOR
PENETRATION (M)
1
5
CONDUCTIVITY

TGRAD STATION V24-034

WATER TEMPERATURES

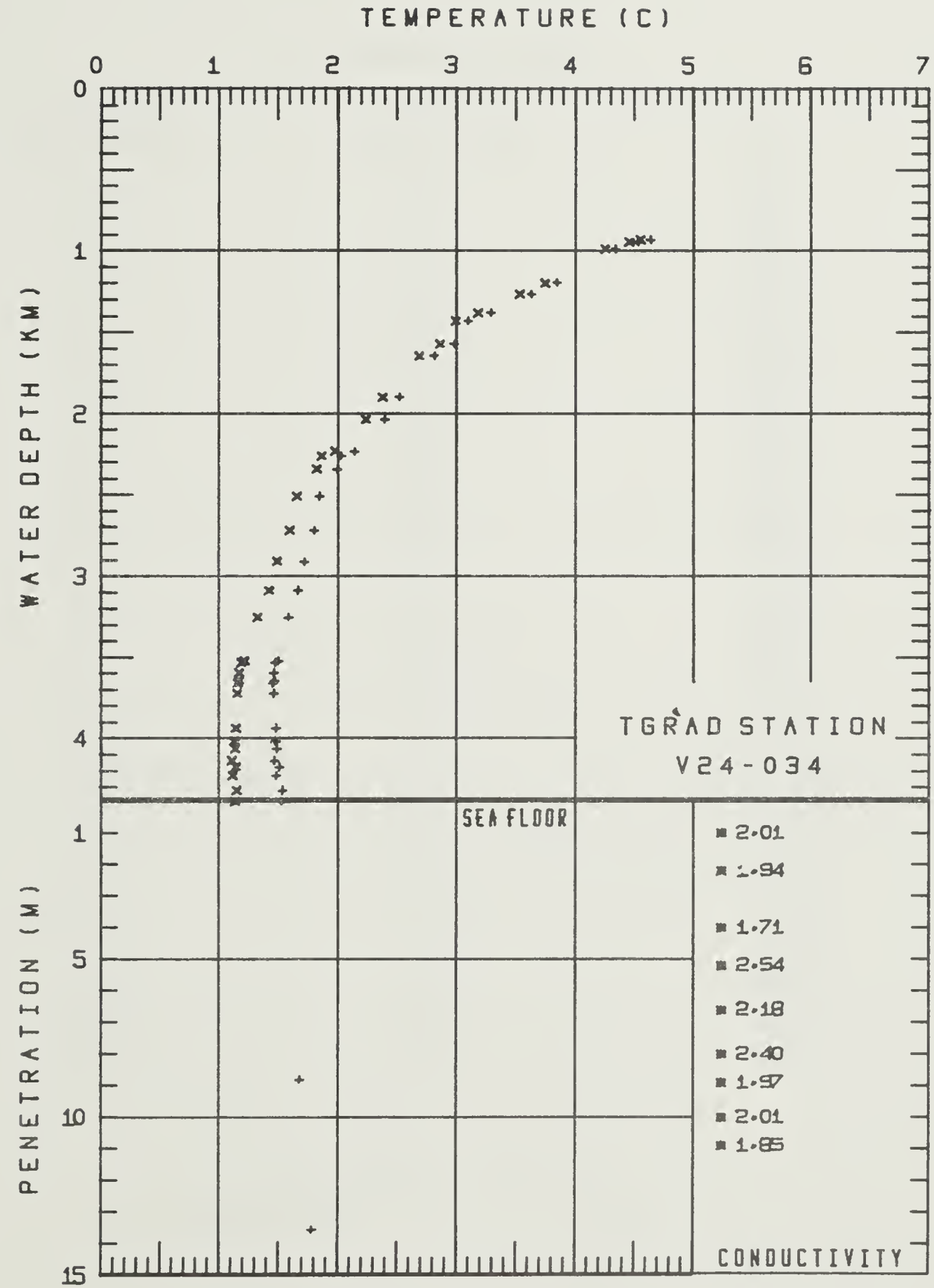
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
929.	4.64	4.56
944.	4.54	4.46
987.	4.35	4.27
1197.	3.86	3.76
1266.	3.65	3.55
1377.	3.30	3.20
1426.	3.12	3.01
1569.	3.00	2.88
1640.	2.83	2.71
1892.	2.54	2.40
2032.	2.42	2.26
2225.	2.17	2.00
2253.	2.06	1.89
2337.	2.02	1.84
2503.	1.87	1.68
2711.	1.83	1.62
2903.	1.74	1.52
3084.	1.69	1.45
3247.	1.61	1.35
3514.	1.53	1.24
3527.	1.50	1.21
3591.	1.49	1.19
3640.	1.49	1.19
3651.	1.48	1.18
3715.	1.49	1.18
3928.	1.50	1.17
4014.	1.51	1.16
4010.	1.50	1.16
4056.	1.51	1.16
4127.	1.49	1.13
4167.	1.53	1.17
4222.	1.51	1.14
4315.	1.56	1.17
4382.	1.55	1.16

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.35	1.63
8.79	1.70
13.56	1.81

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.01
2.20	1.94
4.00	1.71
5.20	2.54
6.60	2.18
8.00	2.40
8.90	1.97
10.00	2.01
10.90	1.85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1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-034
2.01
1.94
1.71
2.54
2.18
2.40
1.97
2.01
1.85
CONDUCTIVITY

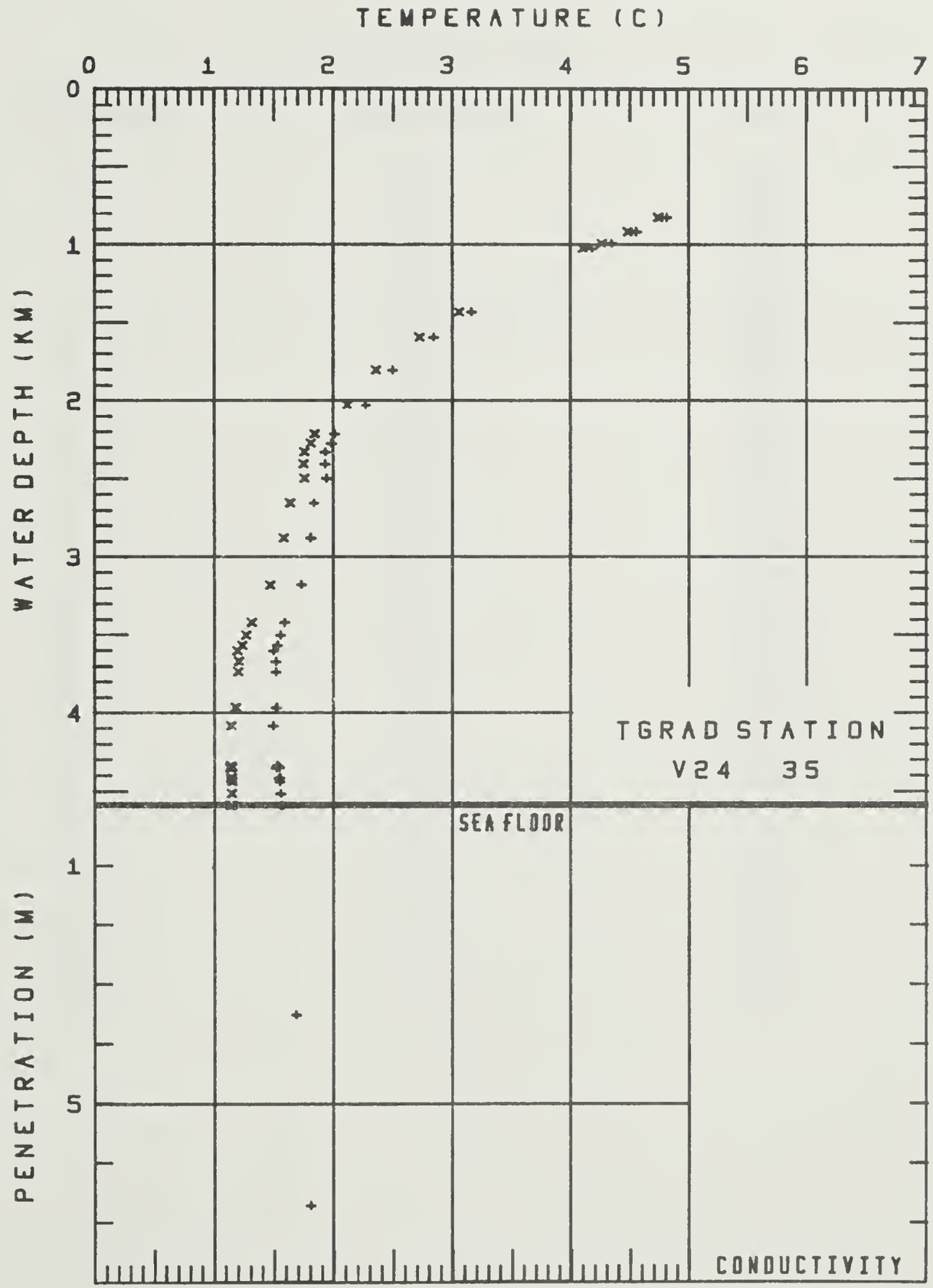
TGRAD STATION V24 35

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
822.	4.81	4.74
913.	4.56	4.48
989.	4.34	4.26
1021.	4.18	4.10
1429.	3.16	3.05
1593.	2.84	2.72
1801.	2.49	2.36
2022.	2.26	2.11
2209.	2.01	1.84
2270.	1.98	1.81
2325.	1.93	1.75
2400.	1.93	1.74
2494.	1.94	1.75
2650.	1.84	1.63
2874.	1.81	1.58
3177.	1.73	1.47
3415.	1.59	1.31
3496.	1.55	1.27
3566.	1.53	1.23
3597.	1.49	1.20
3668.	1.51	1.21
3733.	1.51	1.20
3964.	1.52	1.18
4081.	1.49	1.14
4351.	1.52	1.13
4345.	1.54	1.15
4334.	1.53	1.14
4347.	1.53	1.14
4413.	1.54	1.15
4418.	1.54	1.14
4439.	1.54	1.14
4512.	1.56	1.15
4588.	1.57	1.15
4589.	1.55	1.13

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.51	1.68
6.97	1.80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1
2
3
4
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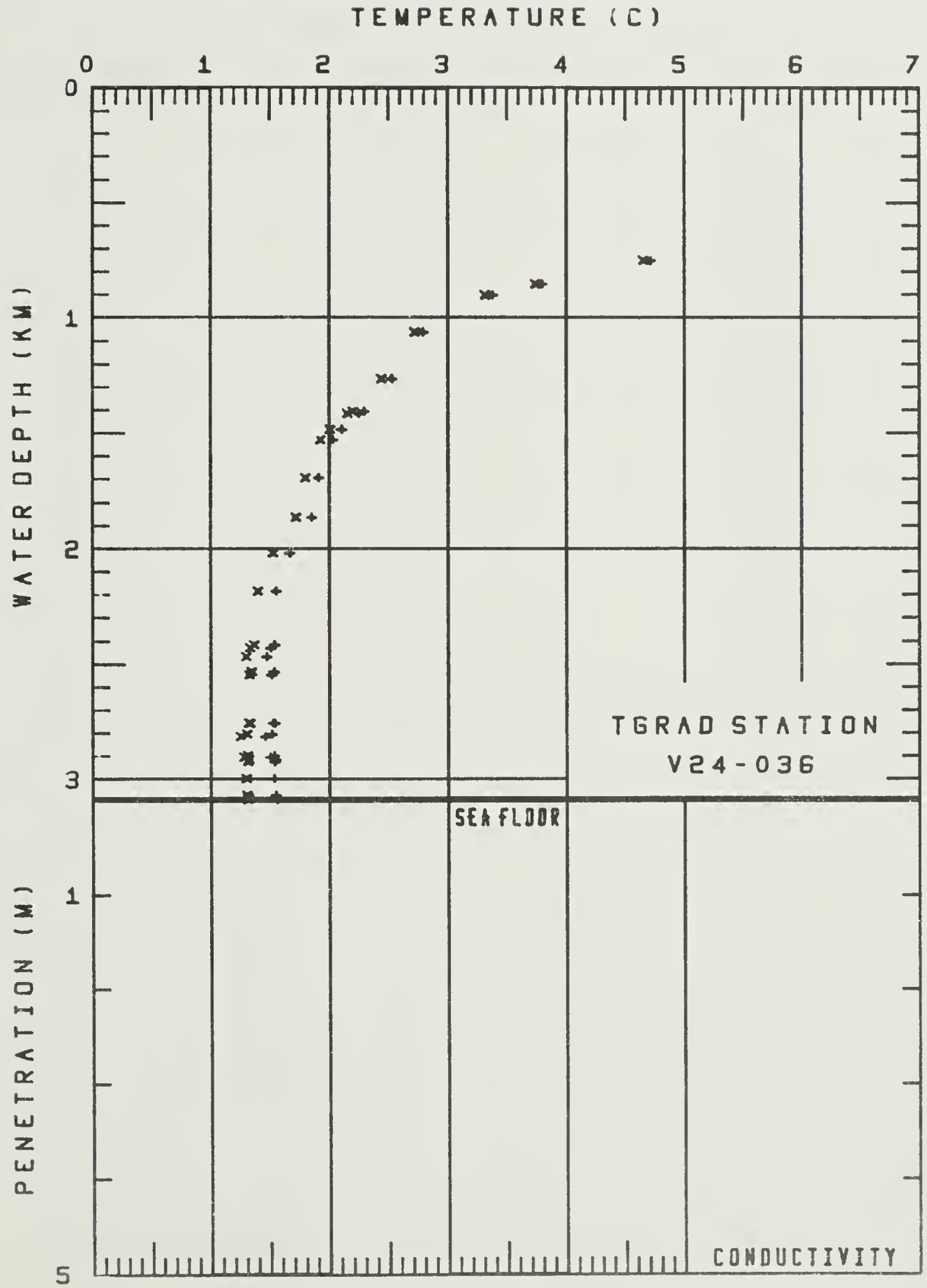
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24 35
SEA FLOOR
PENETRATION (M)
1
5
CONDUCTIVITY

TGRAD STATION V24-036

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
748.	4.72	4.65
852.	3.80	3.74
899.	3.38	3.31
1061.	2.79	2.72
1262.	2.53	2.44
1404.	2.29	2.20
1415.	2.25	2.15
1481.	2.11	2.01
1528.	2.03	1.93
1691.	1.92	1.80
1863.	1.85	1.72
2017.	1.67	1.53
2183.	1.56	1.40
2416.	1.54	1.37
2428.	1.51	1.34
2466.	1.47	1.30
2547.	1.51	1.33
2532.	1.53	1.35
2755.	1.53	1.32
2757.	1.54	1.33
2803.	1.52	1.30
2814.	1.46	1.25
2923.	1.54	1.31
2895.	1.53	1.31
2917.	1.54	1.31
2913.	1.55	1.32
2903.	1.50	1.28
2996.	1.53	1.30
3088.	1.56	1.31
3080.	1.56	1.32
3067.	1.54	1.30
3080.	1.56	1.31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1
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WATER DEPTH (KM)
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1
2
3
TGRAD STATION
V24-036
SEA FLOOR
PENETRATION (M)
1
5
CONDUCTIVITY

TGRAD STATION V24 37

WATER TEMPERATURES

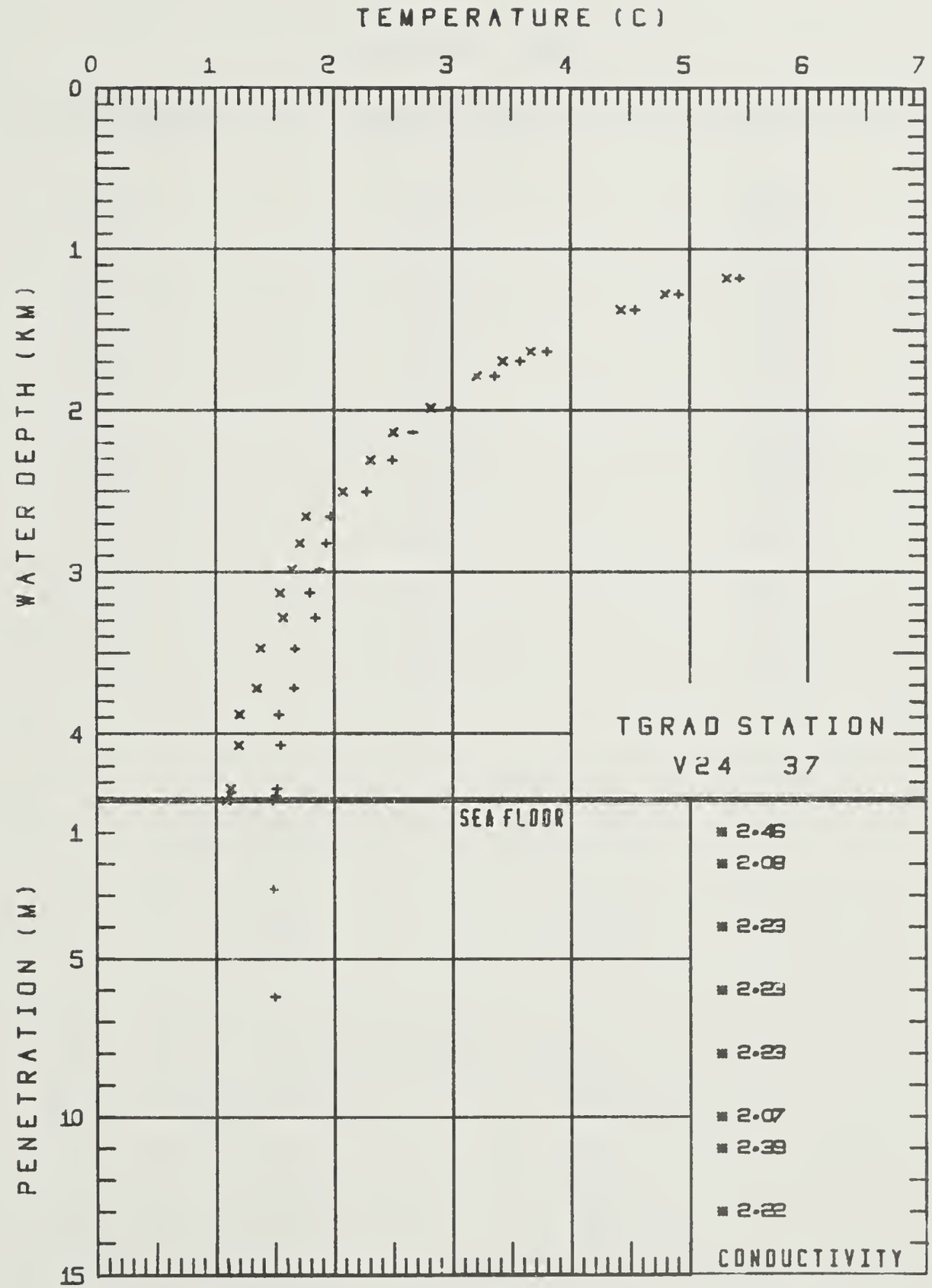
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1178.	5.42	5.31
1274.	4.91	4.79
1374.	4.54	4.42
1633.	3.80	3.66
1693.	3.57	3.43
1787.	3.36	3.21
1981.	2.98	2.82
2134.	2.67	2.50
2302.	2.49	2.31
2499.	2.27	2.07
2655.	1.97	1.76
2819.	1.93	1.71
2981.	1.88	1.64
3129.	1.79	1.54
3279.	1.84	1.57
3473.	1.67	1.38
3716.	1.66	1.34
3878.	1.53	1.20
4072.	1.55	1.19
4341.	1.52	1.13
4386.	1.51	1.12
4413.	1.48	1.08

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.46
2.00	2.08
4.00	2.23
6.00	2.23
8.00	2.23
10.00	2.07
11.00	2.39
13.00	2.22

SEDIMENT TEMPERATURES

Depth	Temperature
2.80	1.49
6.21	1.50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WATER DEPTH (KM)
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1
2
3
4
TGRAD STATION
V24 37
SEA FLOOR
PENETRATION (M)
1
5
10
15
2.46
2.08
2.23
2.23
2.23
2.07
2.38
2.22
CONDUCTIVITY

TGRAD STATION V24-038

WATER TEMPERATURES

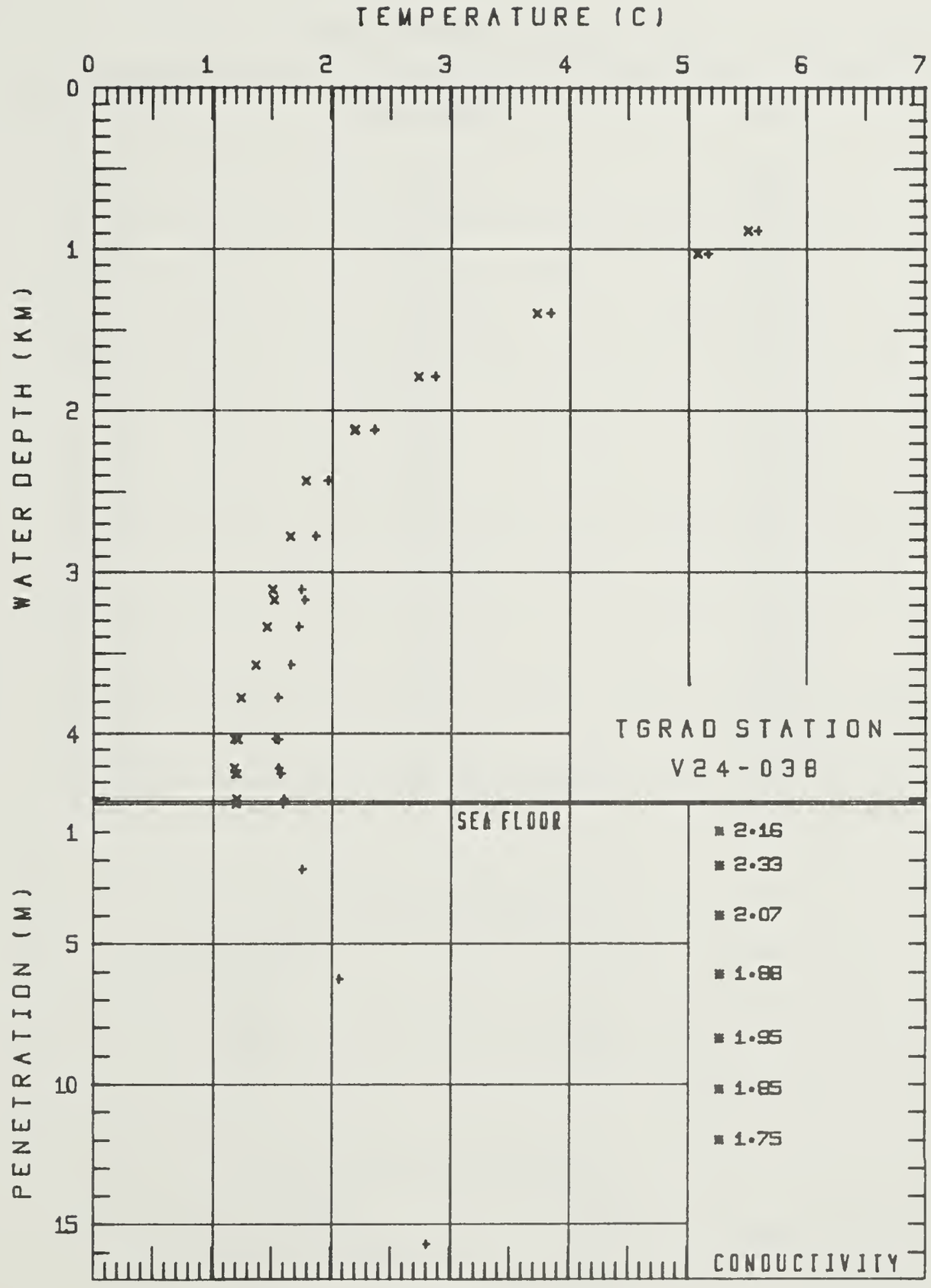
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
880.	5.59	5.51
1024.	5.17	5.08
1395.	3.84	3.73
1787.	2.88	2.73
2117.	2.36	2.19
2113.	2.36	2.20
2429.	1.97	1.78
2773.	1.87	1.65
3101.	1.75	1.50
3166.	1.78	1.52
3334.	1.74	1.46
3573.	1.66	1.36
3775.	1.56	1.24
4030.	1.53	1.19
4035.	1.56	1.21
4213.	1.56	1.19
4247.	1.58	1.20
4247.	1.57	1.20
4401.	1.61	1.21
4433.	1.60	1.20

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.34	1.76
6.27	2.07
15.72	2.81

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.16
2.20	2.33
4.00	2.07
6.10	1.88
8.40	1.95
10.20	1.85
12.00	1.75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WATER DEPTH (KM)
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1
2
3
4
TGRAD STATION
V24-038
SEA FLOOR
PENETRATION (M)
1
5
10
15
2.16
2.33
2.07
1.88
1.95
1.85
1.75
CONDUCTIVITY

TGRAD STATION V24-039

WATER TEMPERATURES

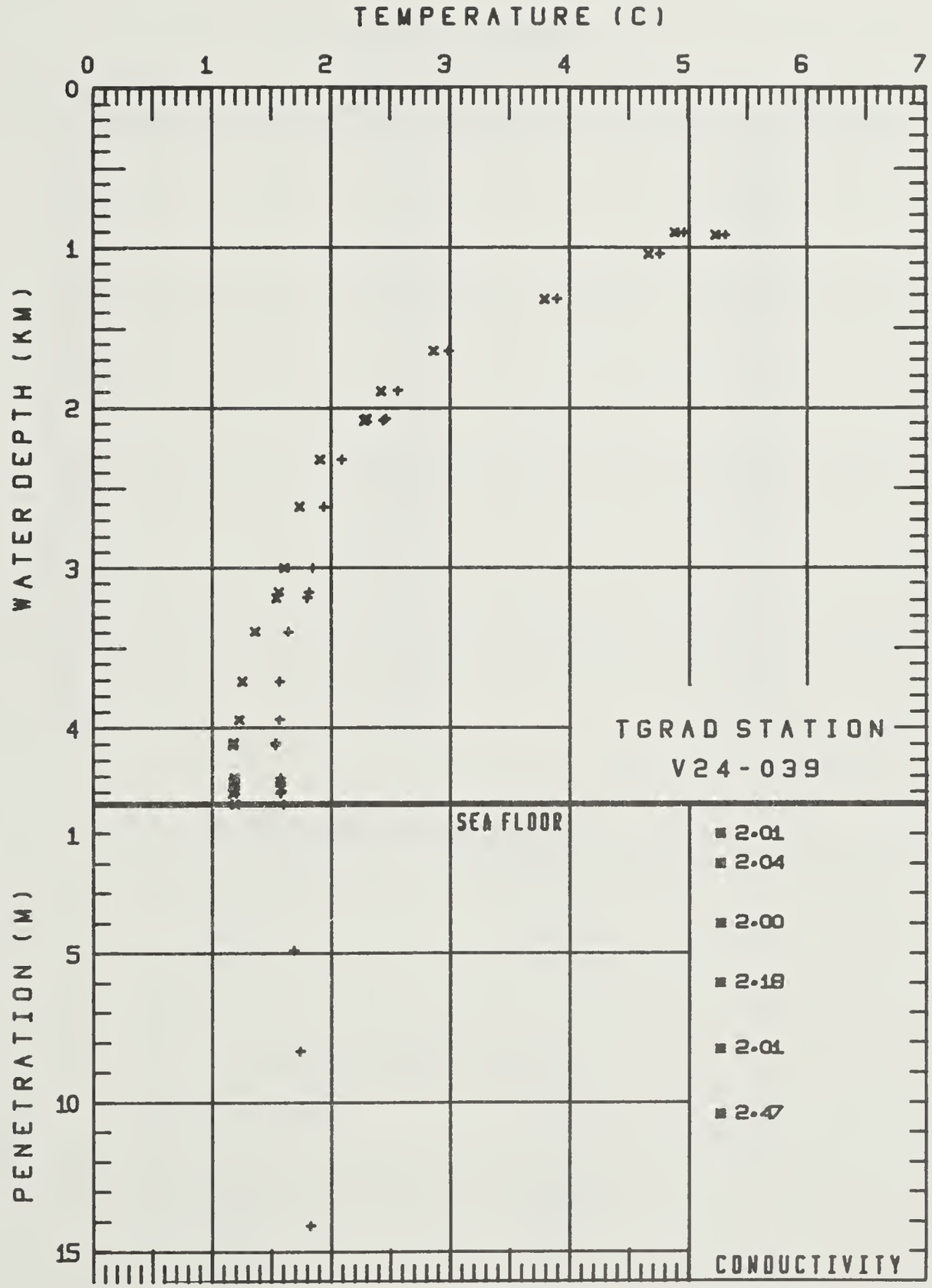
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
917.	5.31	5.22
905.	4.96	4.88
1037.	4.75	4.66
1319.	3.89	3.78
1646.	2.99	2.86
1896.	2.56	2.42
2067.	2.46	2.30
2080.	2.44	2.28
2322.	2.08	1.91
2617.	1.94	1.73
3000.	1.85	1.61
3145.	1.81	1.56
3187.	1.80	1.54
3396.	1.64	1.36
3709.	1.57	1.25
3950.	1.57	1.23
4108.	1.53	1.17
4094.	1.54	1.18
4310.	1.57	1.19
4343.	1.57	1.19
4337.	1.57	1.18
4391.	1.58	1.19
4362.	1.58	1.18
4403.	1.57	1.18
4475.	1.60	1.19

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.90	1.69
8.28	1.74
14.12	1.83

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.01
2.00	2.04
4.00	2.00
6.00	2.18
8.20	2.01
10.40	2.47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5
6
7
WATER DEPTH (KM)
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1
2
3
4
TGRAD STATION
V24-039
SEA FLOOR
PENETRATION (M)
1
5
10
15
= 2.01
= 2.04
= 2.00
= 2.18
= 2.01
= 2.47
CONDUCTIVITY

TGRAD STATION V24-040

WATER TEMPERATURES

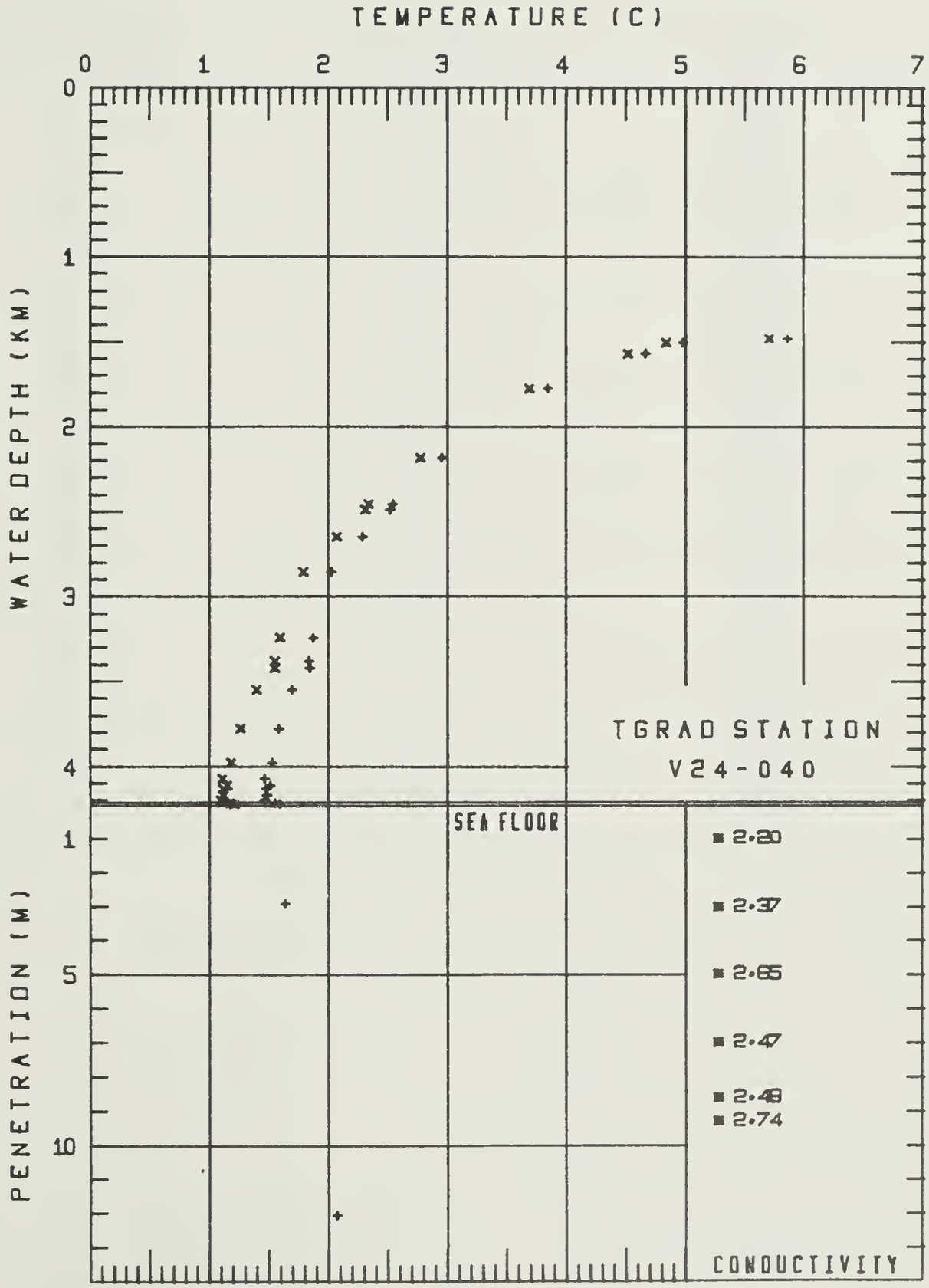
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1479.	5.84	5.69
1500.	4.97	4.83
1567.	4.65	4.51
1775.	3.84	3.68
2180.	2.95	2.77
2455.	2.53	2.33
2489.	2.51	2.31
2644.	2.28	2.06
2855.	2.02	1.79
3242.	1.86	1.59
3420.	1.84	1.55
3380.	1.83	1.55
3545.	1.69	1.40
3777.	1.58	1.26
3977.	1.52	1.18
4116.	1.50	1.15
4216.	1.54	1.17
4223.	1.58	1.21
4073.	1.46	1.11
4131.	1.47	1.11
4171.	1.48	1.11
4198.	1.46	1.09

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.92	1.64
12.07	2.07

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.20
3.00	2.37
5.00	2.65
7.00	2.47
8.60	2.48
9.30	2.74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WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-040
SEA FLOOR
PENETRATION (M)
1
5
10
2.20
2.37
2.65
2.47
2.48
2.74
CONDUCTIVITY

TGRAD STATION V24-041

WATER TEMPERATURES

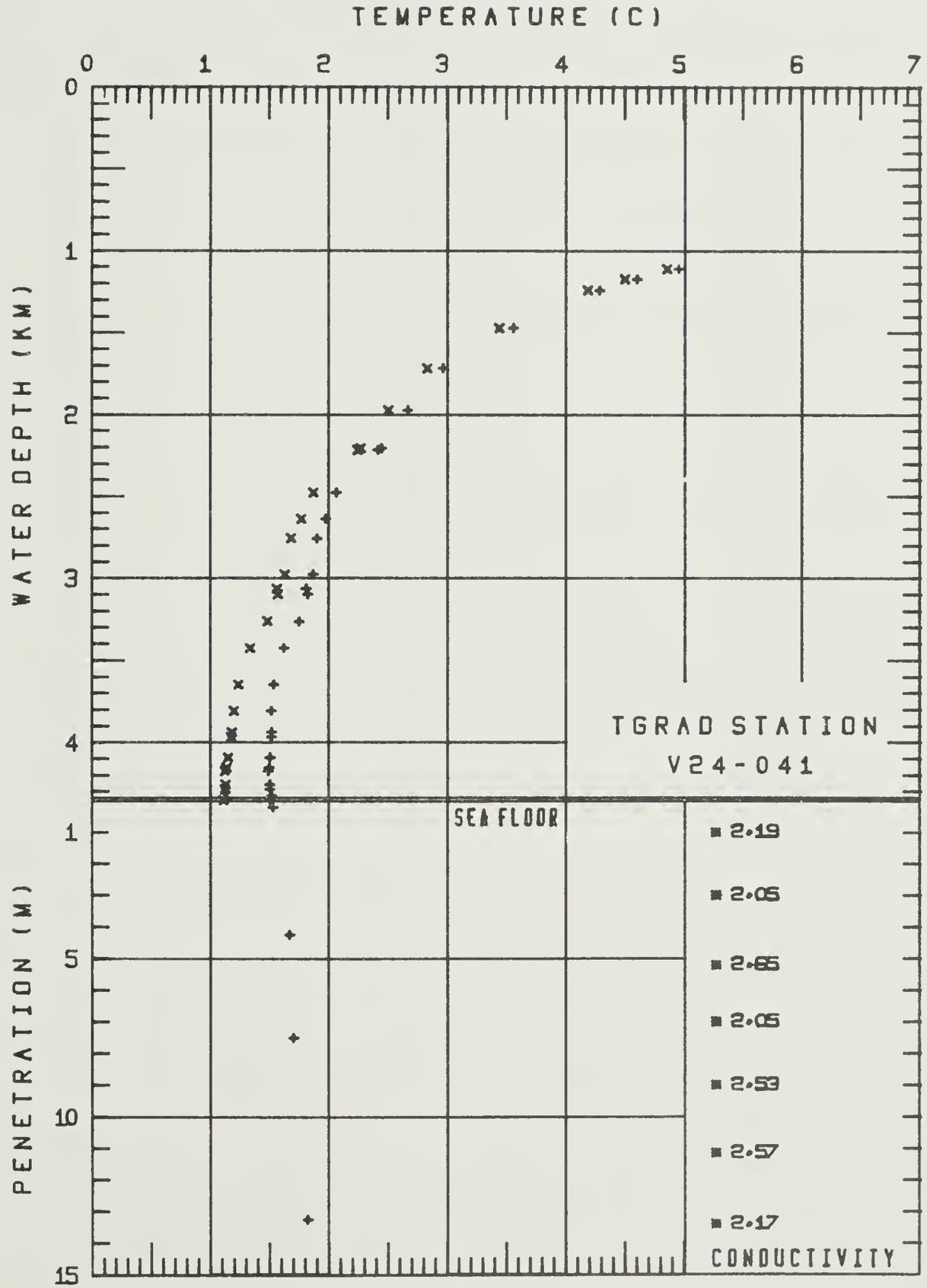
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1109.	4.94	4.85
1169.	4.60	4.50
1240.	4.28	4.18
1469.	3.55	3.44
1718.	2.96	2.83
1972.	2.66	2.50
2207.	2.44	2.27
2214.	2.41	2.24
2475.	2.06	1.87
2637.	1.97	1.77
2756.	1.90	1.68
2973.	1.86	1.63
3062.	1.81	1.56
3096.	1.82	1.57
3257.	1.74	1.48
3425.	1.62	1.34
3645.	1.53	1.23
3807.	1.51	1.19
3937.	1.51	1.18
3963.	1.51	1.17
4093.	1.50	1.15
4156.	1.49	1.13
4175.	1.49	1.12
4254.	1.50	1.13
4286.	1.50	1.12
4321.	1.51	1.13
4352.	1.50	1.11

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.23	1.53
4.24	1.67
7.50	1.70
13.26	1.82

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.19
3.00	2.05
5.20	2.65
7.00	2.05
9.00	2.53
11.15	2.57
13.40	2.17


TEMPERATURE (C)
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1
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5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-041
SEA FLOOR
PENETRATION (M)
1
5
10
15
2.19
2.05
2.85
2.05
2.53
2.57
2.17
CONDUCTIVITY

TGRAD STATION V24 42

WATER TEMPERATURES

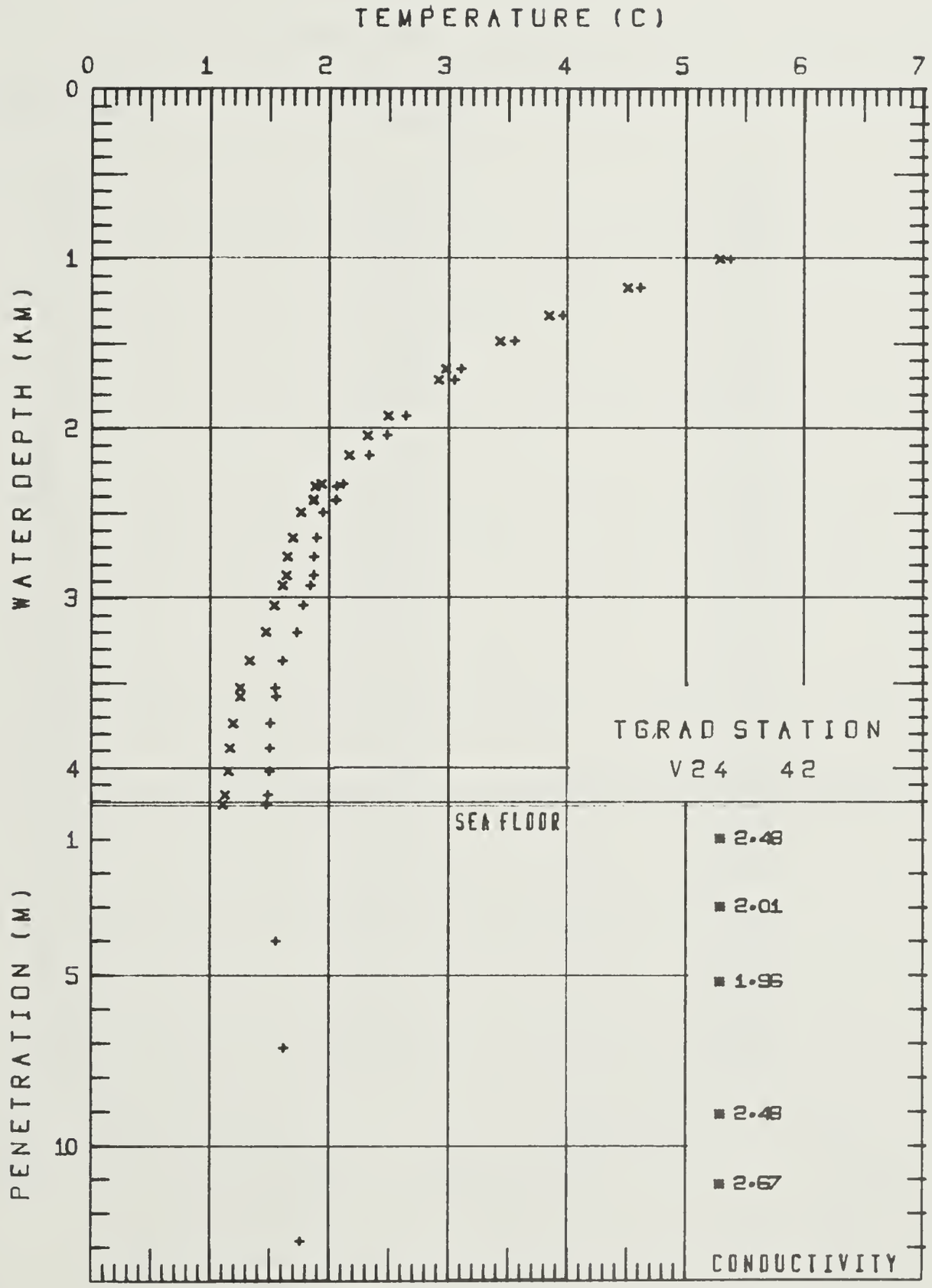
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1000.	5.35	5.26
1165.	4.58	4.48
1330.	3.93	3.82
1479.	3.53	3.41
1643.	3.08	2.95
1712.	3.03	2.89
1923.	2.62	2.47
2037.	2.46	2.30
2157.	2.31	2.15
2322.	2.09	1.91
2339.	2.04	1.86
2420.	2.03	1.85
2423.	2.03	1.85
2493.	1.93	1.74
2643.	1.88	1.67
2754.	1.84	1.63
2862.	1.84	1.62
2923.	1.82	1.59
3043.	1.76	1.52
3200.	1.70	1.45
3368.	1.59	1.31
3530.	1.52	1.23
3581.	1.53	1.24
3741.	1.48	1.17
3883.	1.48	1.15
4021.	1.48	1.14
4164.	1.47	1.11
4217.	1.46	1.09

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.01	1.54
7.13	1.60
12.80	1.74

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.48
3.00	2.01
5.20	1.96
9.10	2.48
11.15	2.67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1
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WATER DEPTH (KM)
0
1
2
3
4
PENETRATION (M)
1
5
10
TG.RAD STATION
V24 42
SEA FLOOR
2.48
2.01
1.96
2.48
2.67
CONDUCTIVITY

TGRAD STATION V24-043

WATER TEMPERATURES

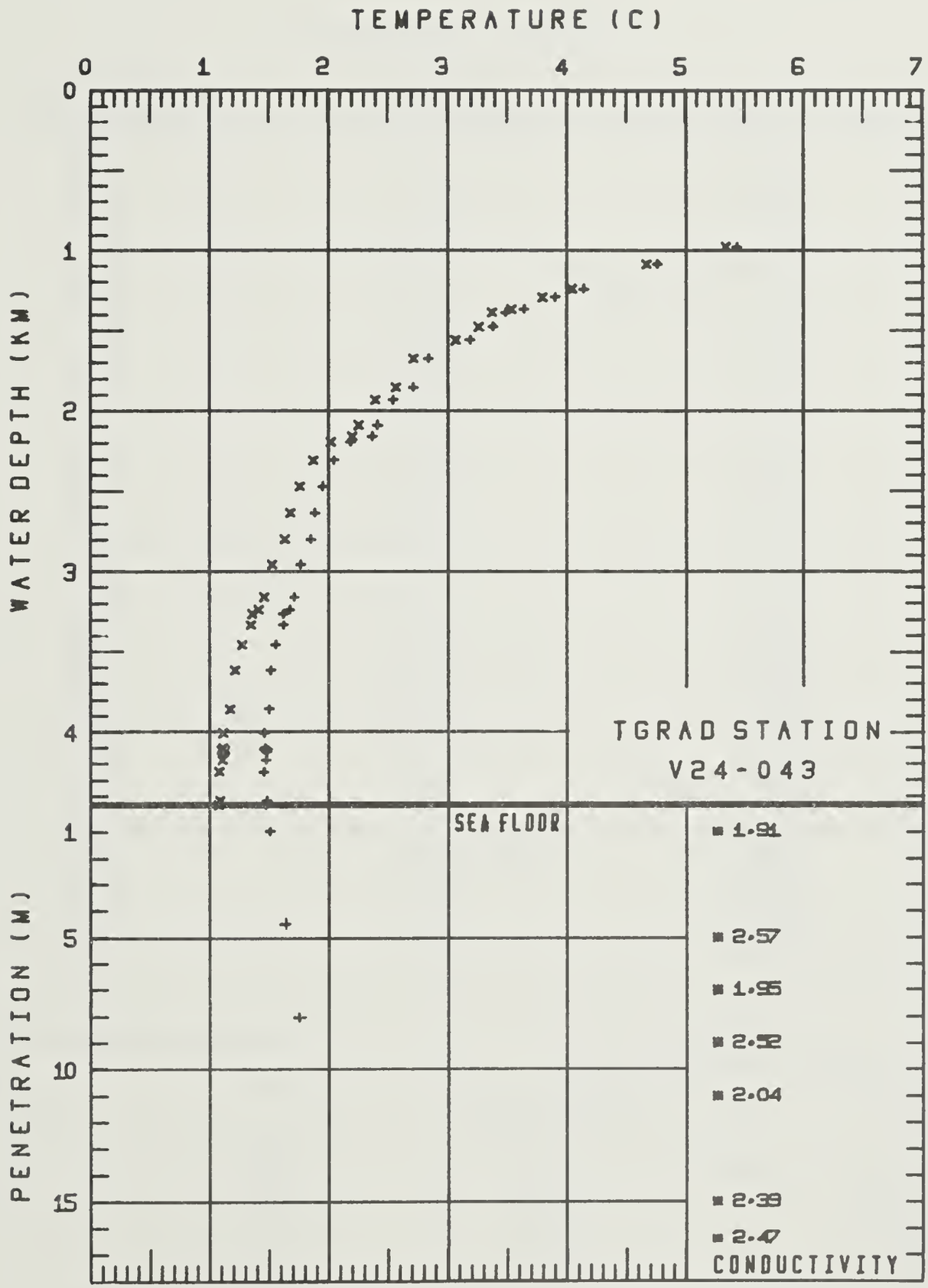
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
977.	5.43	5.34
1085.	4.76	4.66
1237.	4.14	4.04
1293.	3.90	3.79
1367.	3.64	3.53
1387.	3.49	3.38
1477.	3.38	3.26
1561.	3.19	3.06
1674.	2.84	2.71
1850.	2.71	2.57
1933.	2.54	2.39
2091.	2.41	2.25
2160.	2.37	2.20
2192.	2.18	2.02
2308.	2.05	1.87
2473.	1.95	1.76
2632.	1.88	1.68
2795.	1.85	1.64
2958.	1.76	1.53
3159.	1.71	1.46
3237.	1.67	1.41
3265.	1.62	1.36
3331.	1.62	1.35
3458.	1.56	1.27
3615.	1.51	1.22
3858.	1.50	1.17
4005.	1.46	1.12
4126.	1.48	1.12
4110.	1.46	1.10
4111.	1.49	1.13
4097.	1.47	1.11
4174.	1.48	1.11
4249.	1.45	1.08
4426.	1.48	1.08
4456.	1.47	1.07

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.00	1.51
4.62	1.63
8.13	1.75

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.91
5.00	2.57
7.00	1.95
9.00	2.52
11.00	2.04
15.00	2.39
16.40	2.47


TEMPERATURE (C)
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WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-043
SEA FLOOR
PENETRATION (M)
1
5
10
15
1.91
2.57
1.95
2.52
2.04
2.38
2.47
CONDUCTIVITY

TGRAD STATION V24-044

WATER TEMPERATURES

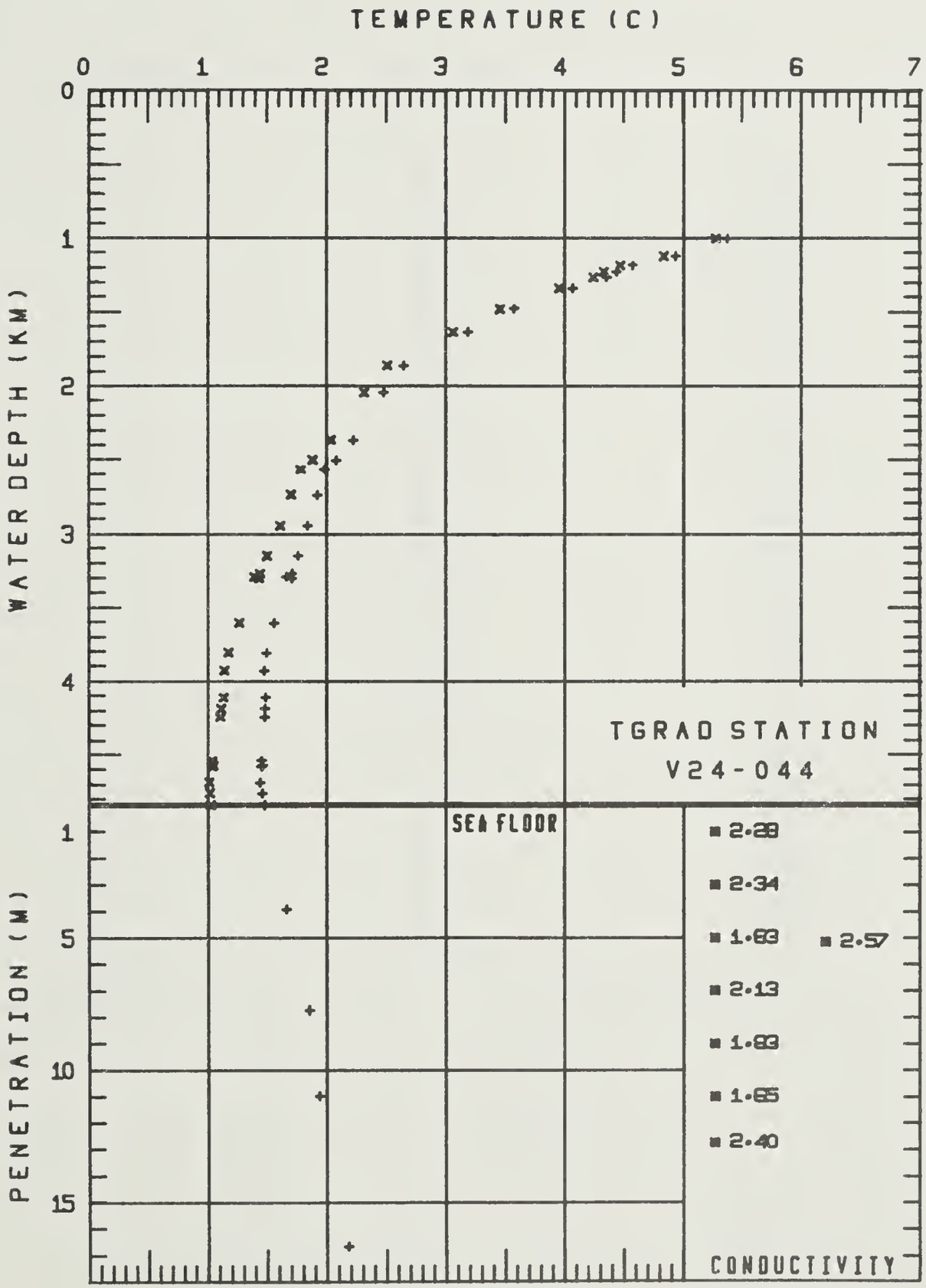
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1000.	5.37	5.28
1117.	4.93	4.83
1181.	4.57	4.47
1226.	4.43	4.33
1262.	4.35	4.24
1340.	4.06	3.95
1478.	3.57	3.45
1637.	3.19	3.06
1862.	2.65	2.50
2042.	2.47	2.31
2368.	2.22	2.04
2502.	2.08	1.88
2568.	1.98	1.78
2736.	1.92	1.70
2947.	1.84	1.61
3154.	1.76	1.50
3272.	1.71	1.44
3305.	1.71	1.44
3293.	1.66	1.39
3603.	1.56	1.26
3807.	1.50	1.17
3927.	1.48	1.14
4108.	1.49	1.13
4188.	1.48	1.11
4244.	1.48	1.11
4541.	1.45	1.04
4573.	1.46	1.05
4580.	1.45	1.04
4688.	1.44	1.01
4753.	1.46	1.02
4842.	1.48	1.03

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.94	1.66
7.75	1.85
10.97	1.94
16.64	2.18

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.28
3.00	2.34
5.00	1.83
5.17	2.57
7.00	2.13
9.00	1.83
11.00	1.65
12.75	2.40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1
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6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-044
2.28
2.34
1.83
2.57
2.13
1.83
1.85
2.40
CONDUCTIVITY

TGRAD STATION V24 45

WATER TEMPERATURES

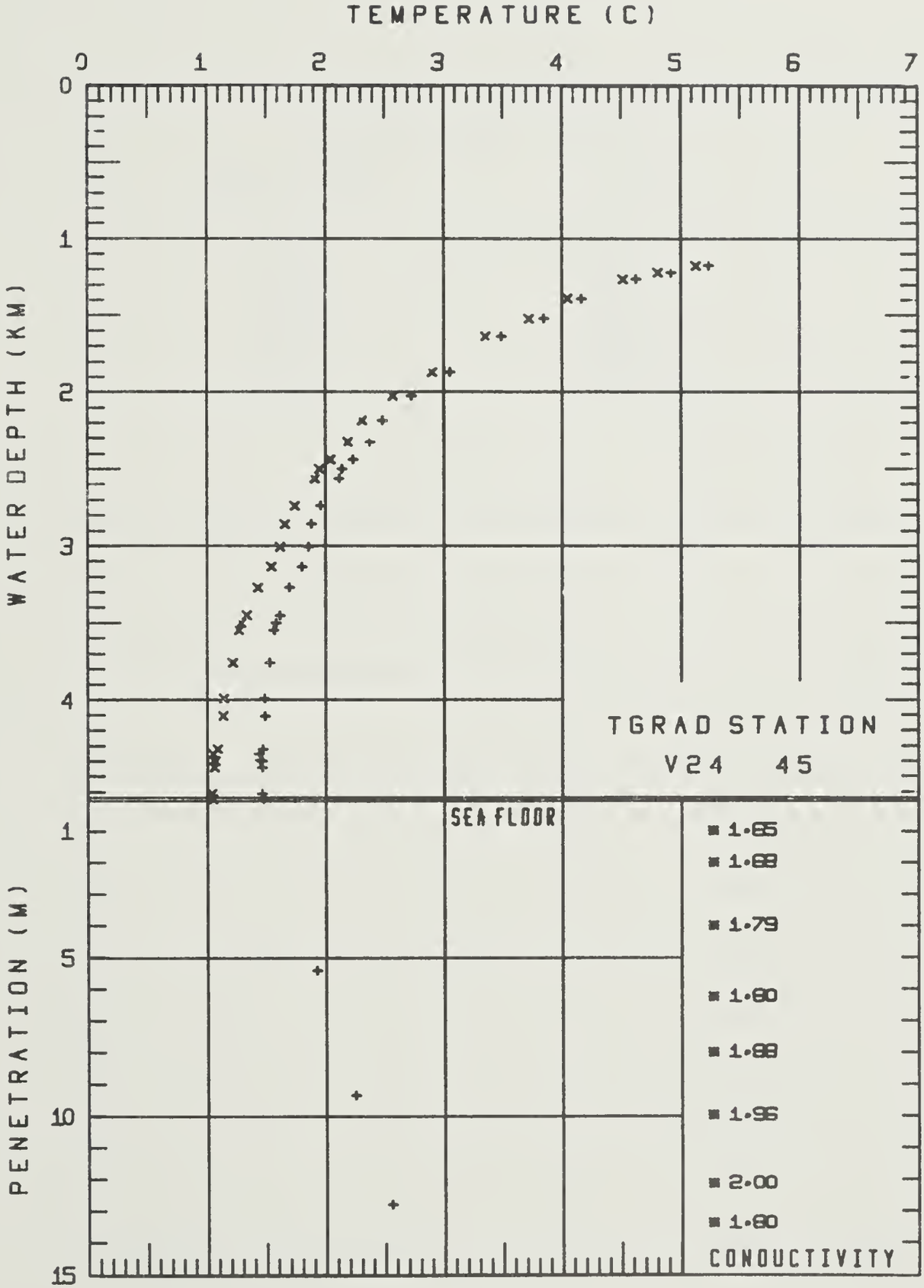
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1173.	5.24	5.13
1220.	4.92	4.81
1259.	4.62	4.51
1389.	4.17	4.05
1520.	3.85	3.72
1637.	3.49	3.35
1867.	3.05	2.90
2024.	2.73	2.57
2186.	2.48	2.31
2324.	2.37	2.19
2438.	2.23	2.04
2498.	2.14	1.94
2563.	2.11	1.91
2739.	1.96	1.74
2857.	1.88	1.66
3005.	1.85	1.61
3132.	1.80	1.54
3269.	1.69	1.43
3451.	1.61	1.33
3500.	1.58	1.29
3545.	1.56	1.27
3758.	1.53	1.21
3993.	1.48	1.14
4107.	1.49	1.13
4322.	1.47	1.08
4354.	1.43	1.05
4399.	1.46	1.07
4396.	1.45	1.05
4443.	1.46	1.06
4612.	1.46	1.04
4647.	1.47	1.05

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
5.41	1.92
9.35	2.25
12.80	2.56

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.65
2.00	1.68
4.00	1.79
6.25	1.80
8.00	1.88
10.00	1.96
12.15	2.00
13.40	1.80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1
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3
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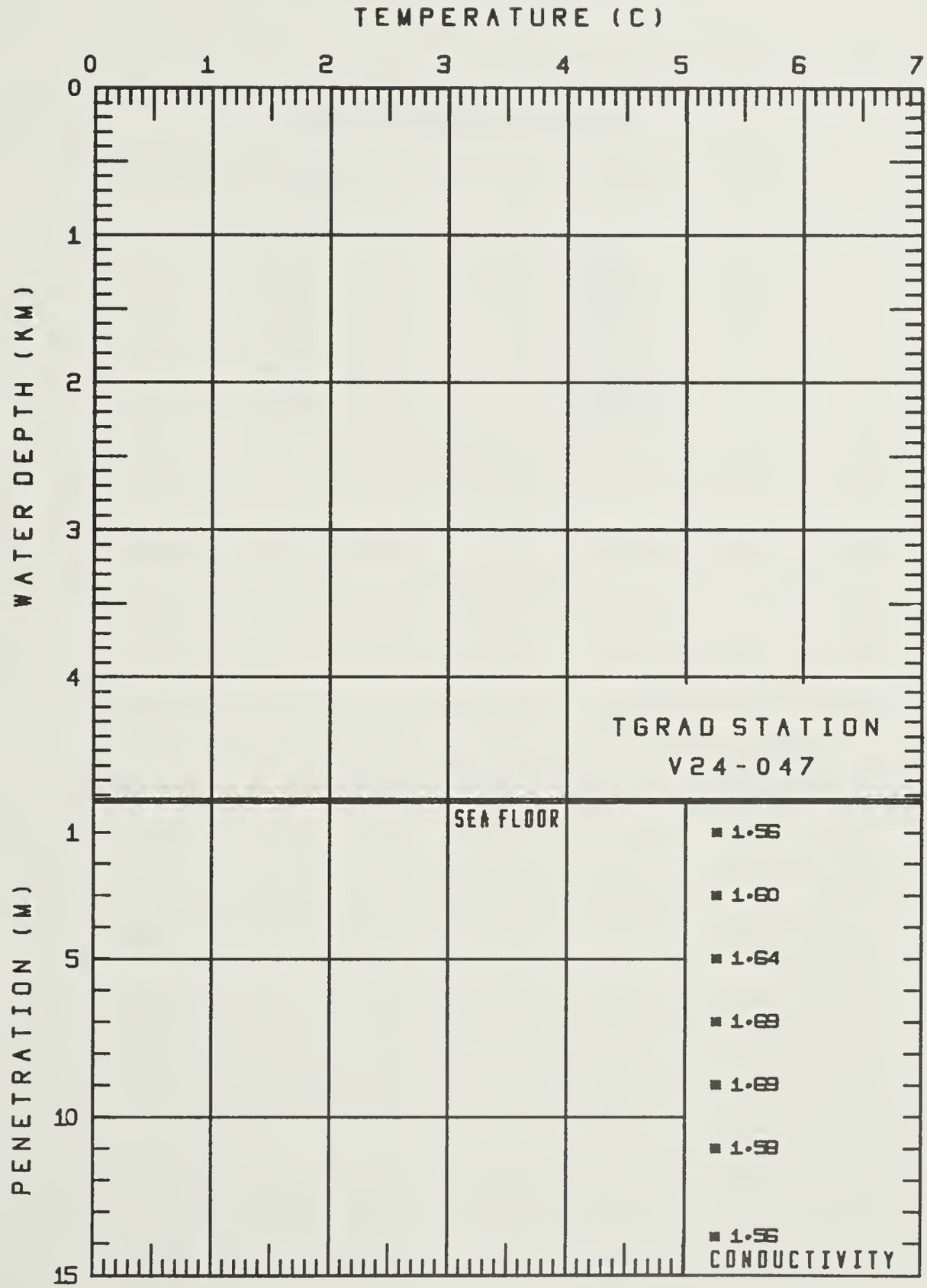
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24 45
SEA FLOOR
1
5
10
15
1.85
1.88
1.79
1.80
1.88
1.96
2.00
1.80
CONDUCTIVITY

TGRAD STATIONV24-047

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.56
3.00	1.60
5.00	1.64
7.00	1.69
9.00	1.69
11.00	1.58
13.80	1.56


TEMPERATURE (C)
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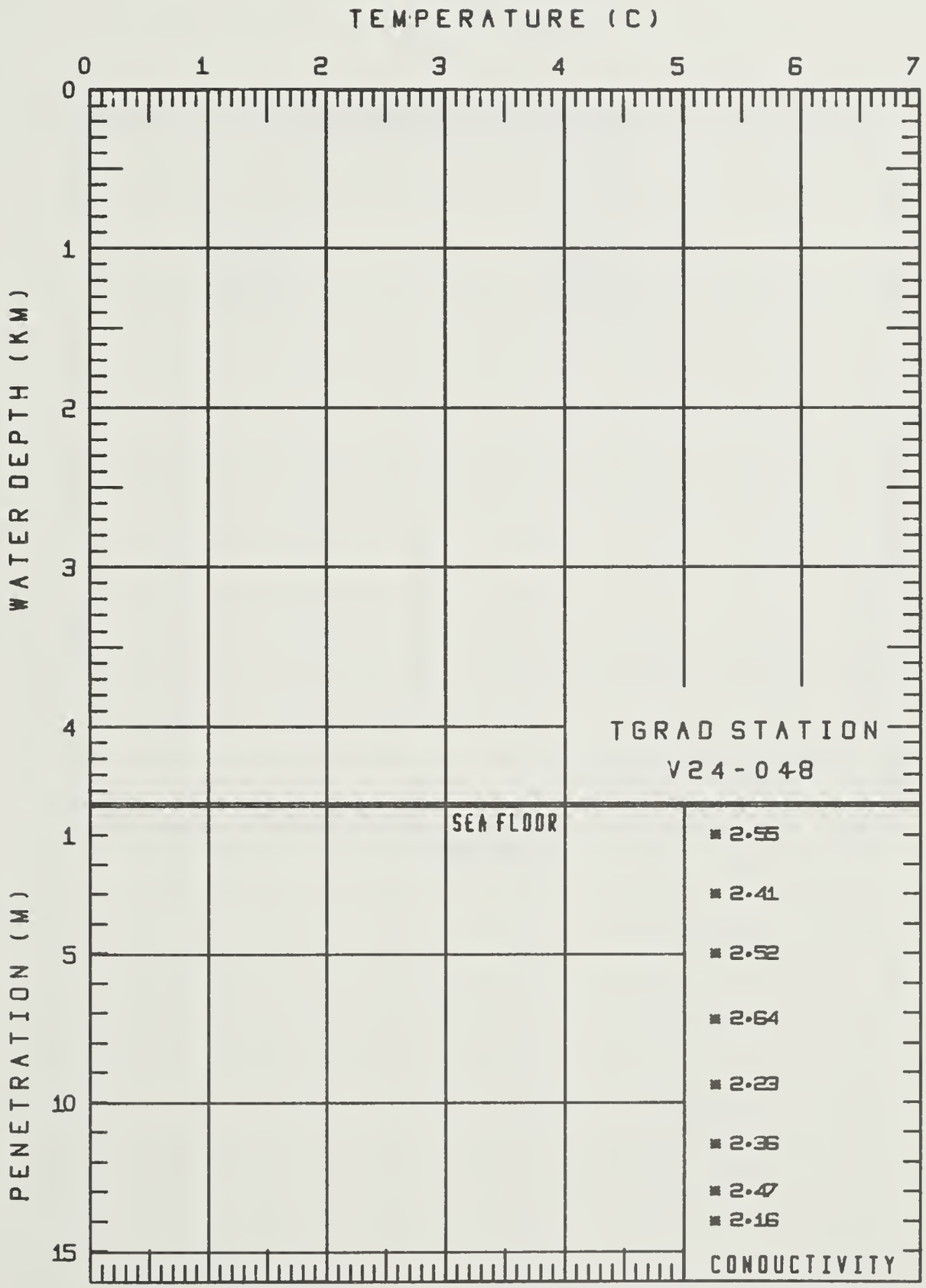
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-047
SEA FLOOR
PENETRATION (M)
1
5
10
15
1.56
1.60
1.64
1.68
1.68
1.58
1.56
CONDUCTIVITY

TGRAD STATIONV24-048

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.55
3.00	2.41
5.00	2.52
7.20	2.64
9.40	2.23
11.40	2.36
13.00	2.47
14.00	2.16


TEMPERATURE (C)
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1
2
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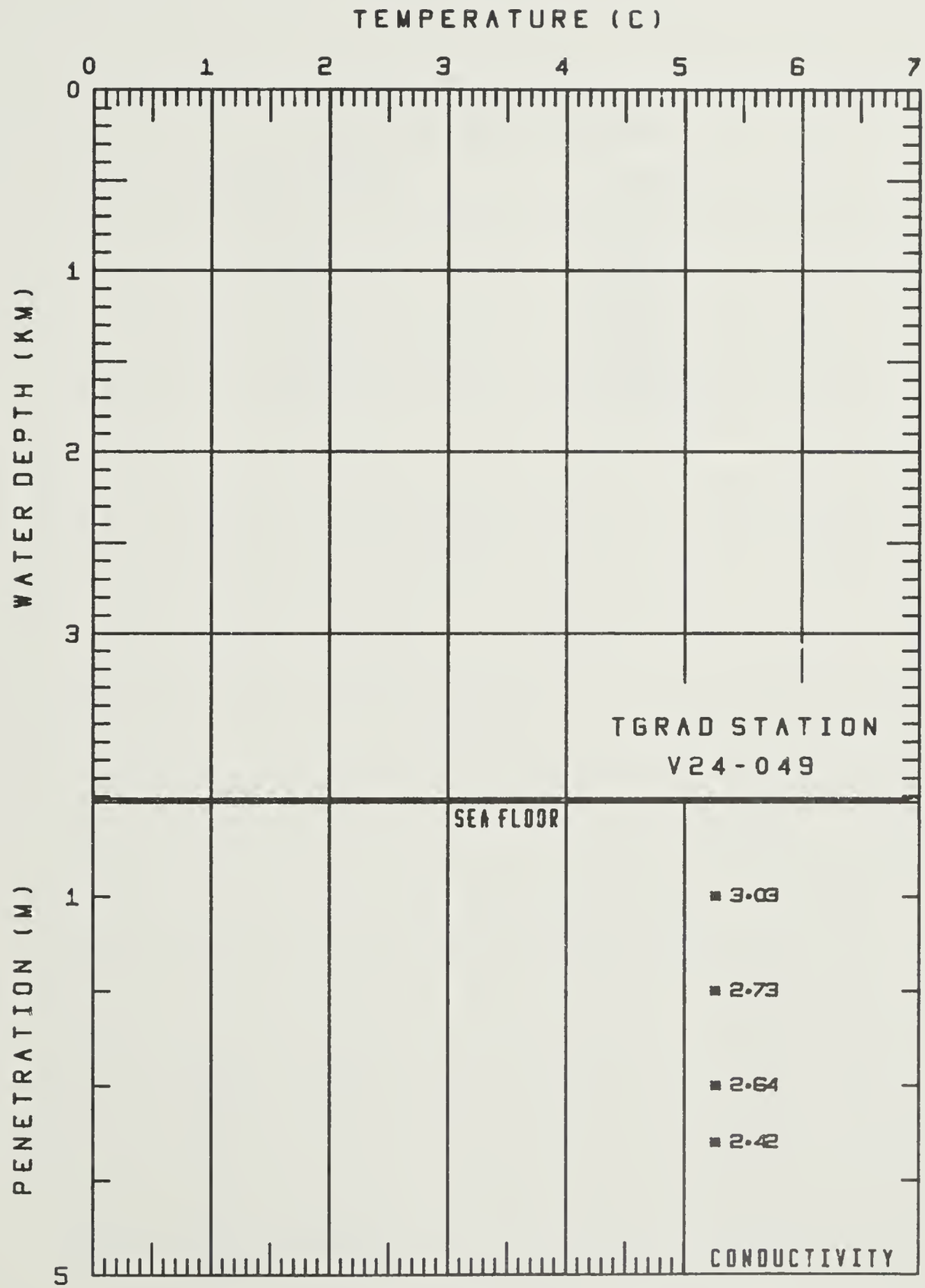
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-048
SEA FLOOR
PENETRATION (M)
1
5
10
15
2.55
2.41
2.52
2.64
2.23
2.36
2.47
2.16
CONDUCTIVITY

TGRAD STATIONV24-049

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	3.03
2.00	2.73
3.00	2.64
3.60	2.42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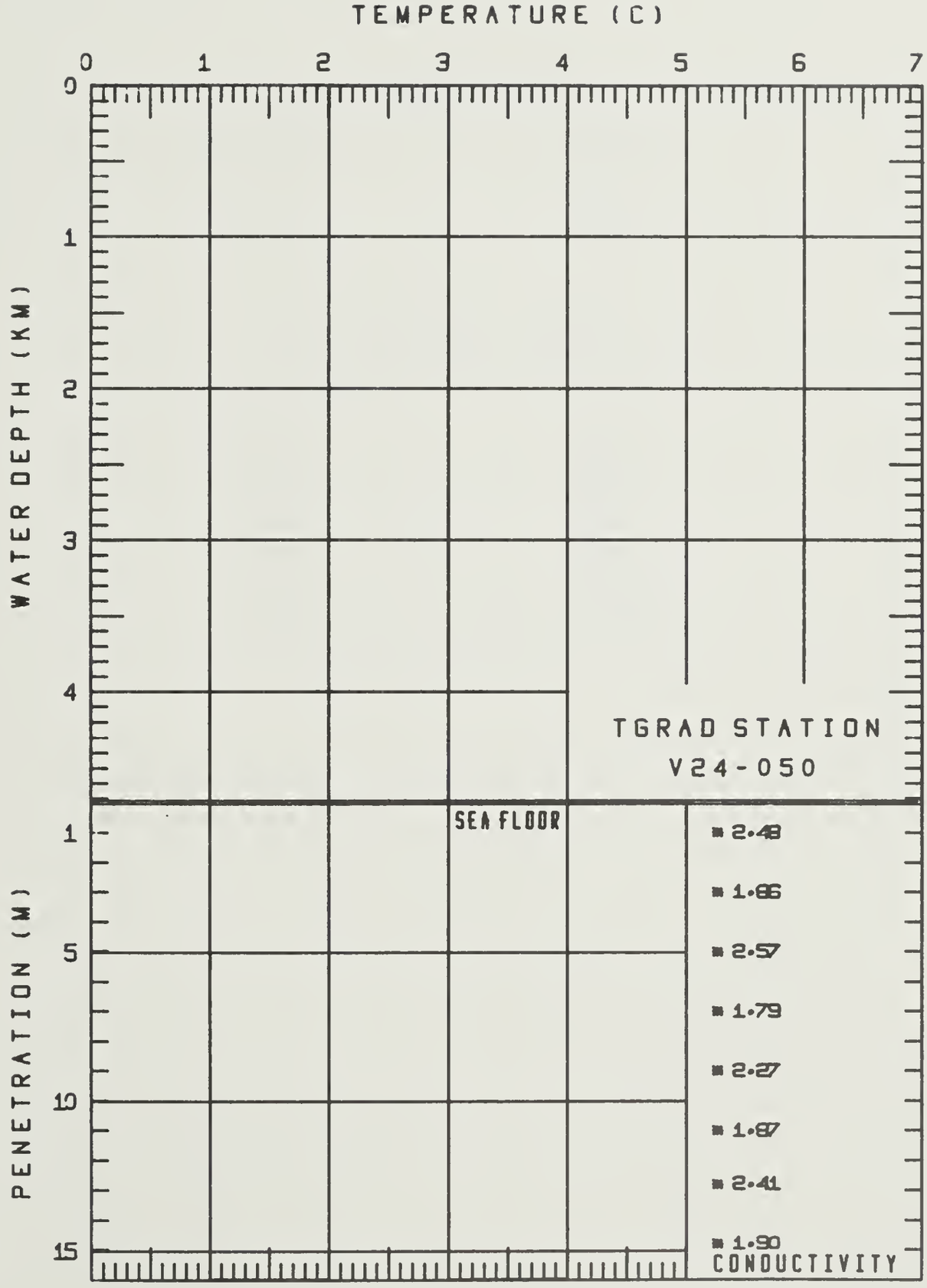
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-049
SEA FLOOR
PENETRATION (M)
1
5
■ 3·03
■ 2·73
■ 2·64
■ 2·42
CONDUCTIVITY

TGRAD STATIONV24-050

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.48
3.00	1.86
5.00	2.57
7.00	1.79
9.00	2.27
11.00	1.87
12.80	2.41
14.80	1.90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1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-050
SEA FLOOR
= 2.48
= 1.86
= 2.57
= 1.79
= 2.27
= 1.87
= 2.41
= 1.90
CONDUCTIVITY

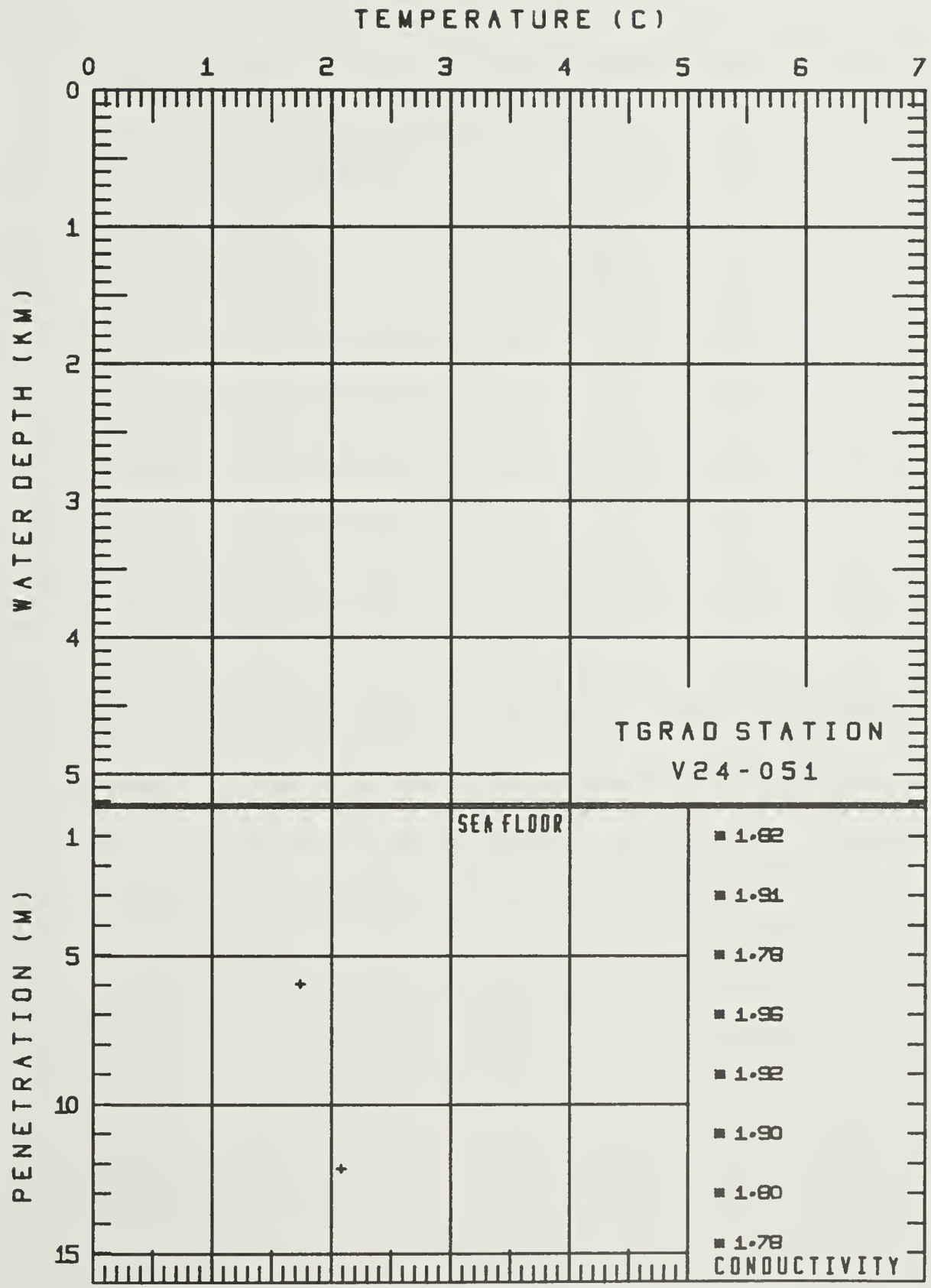
TGRAD STATIONV24-051

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
5.95	1.74
12.15	2.08

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.82
3.00	1.91
5.00	1.78
7.00	1.96
9.00	1.92
11.00	1.90
13.00	1.80
14.70	1.78


TEMPERATURE (C)
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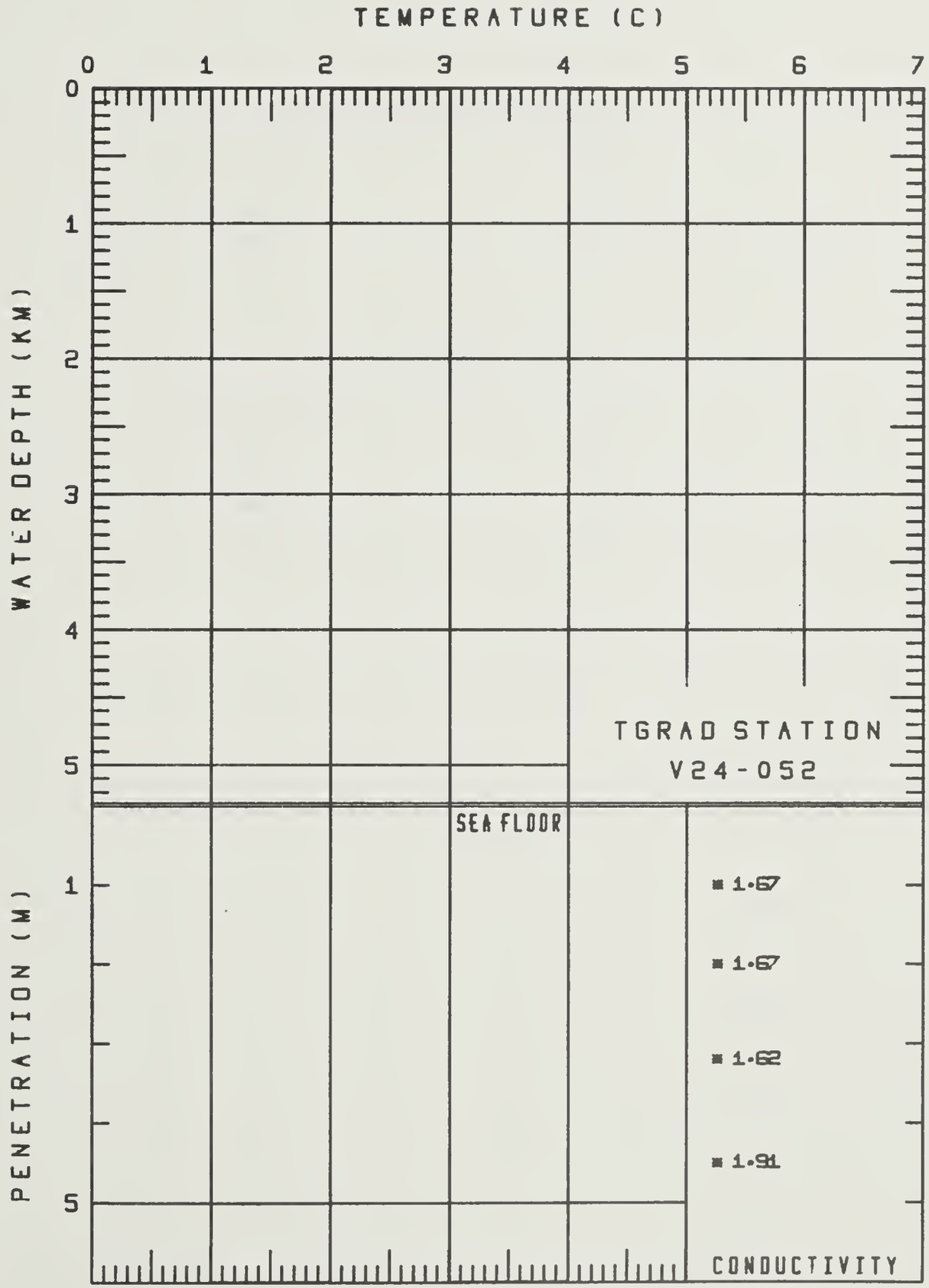
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-051
SEA FLOOR
PENETRATION (M)
1
5
10
15
■ 1.82
■ 1.91
■ 1.78
■ 1.96
■ 1.92
■ 1.90
■ 1.80
■ 1.78
CONDUCTIVITY

TGRAD STATIONV24-052

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.67
2.00	1.67
3.20	1.62
4.50	1.91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0
1
2
3
4
5
6
7
WATER DEPTH (KM)
TGRAD STATION
V24-052
SEA FLOOR
PENETRATION (M)
= 1.67
= 1.67
= 1.62
= 1.91
CONDUCTIVITY

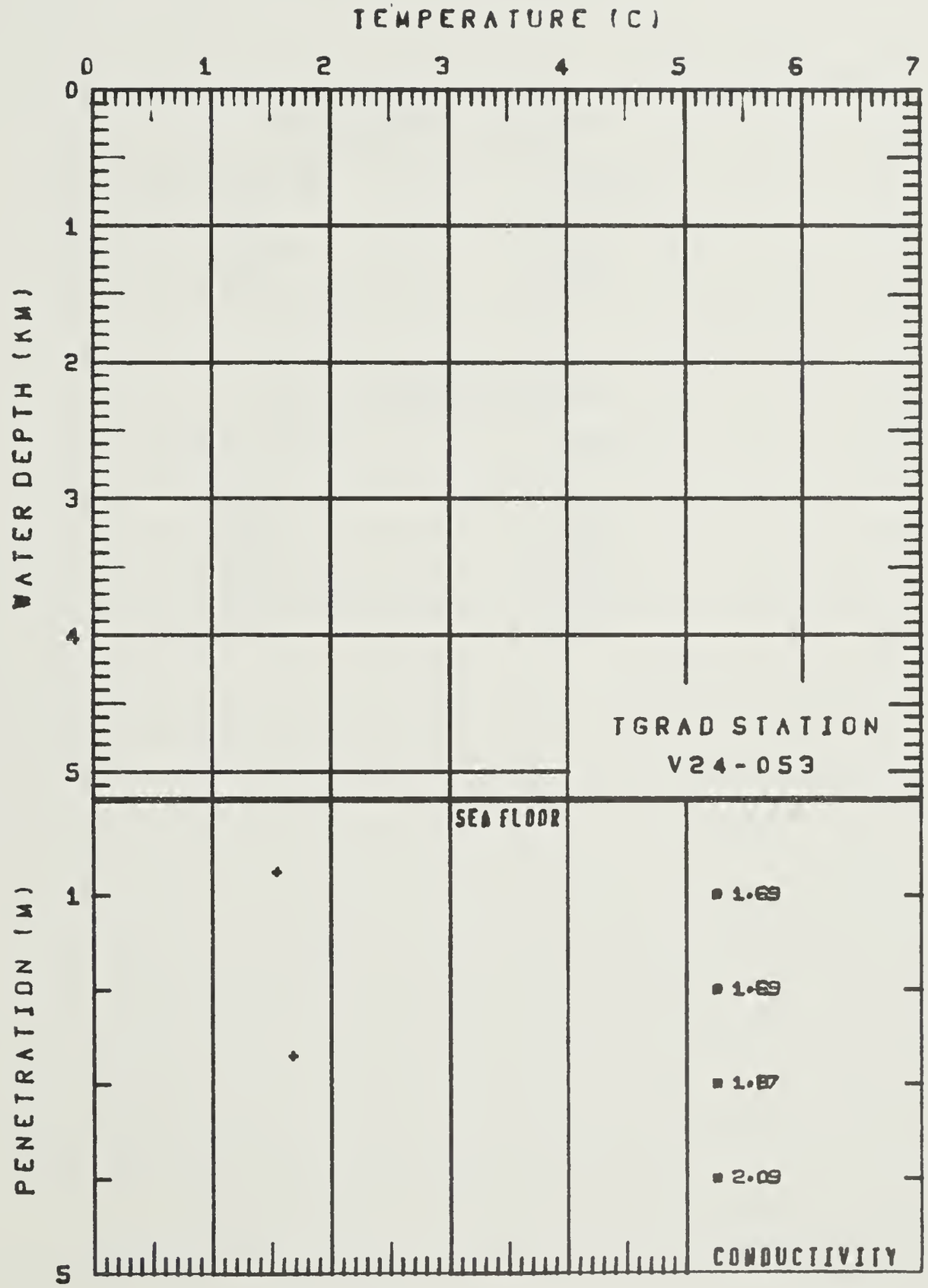
TGRAD STATIONV24-053

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.75	1.55
2.70	1.68

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.69
2.00	1.69
3.00	1.87
4.00	2.09


TEMPERATURE (C)
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1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-053
SEA FLOOR
PENETRATION (M)
1
5
1.68
1.69
1.87
2.09
CONDUCTIVITY

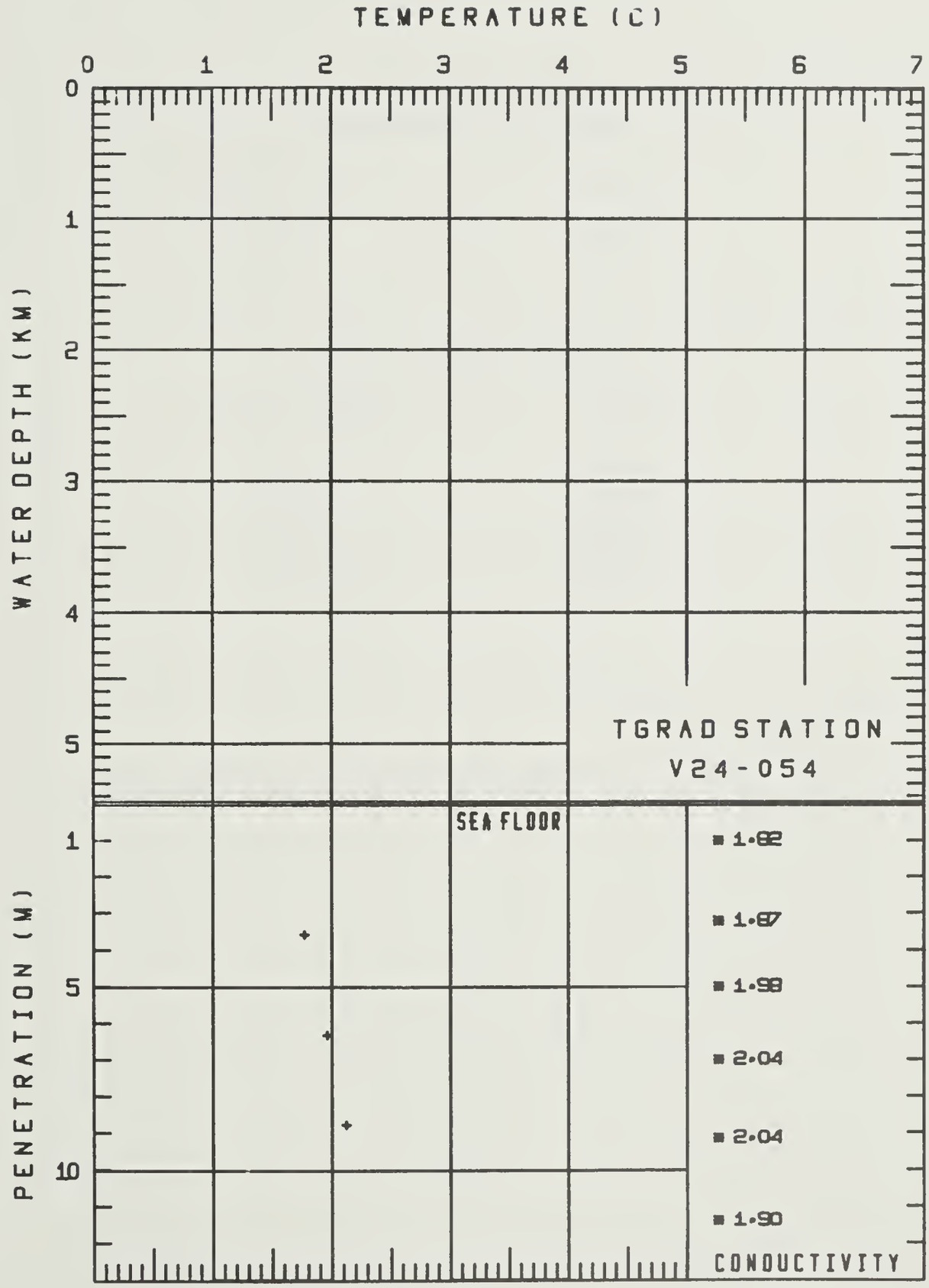
TGRAD STATIONV24-054

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.58	1.77
6.32	1.96
8.78	2.12

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.82
3.20	1.87
5.00	1.98
7.00	2.04
9.15	2.04
11.40	1.90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1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-054
SEA FLOOR
1
5
10
1.82
1.87
1.98
2.04
2.04
1.90
CONDUCTIVITY

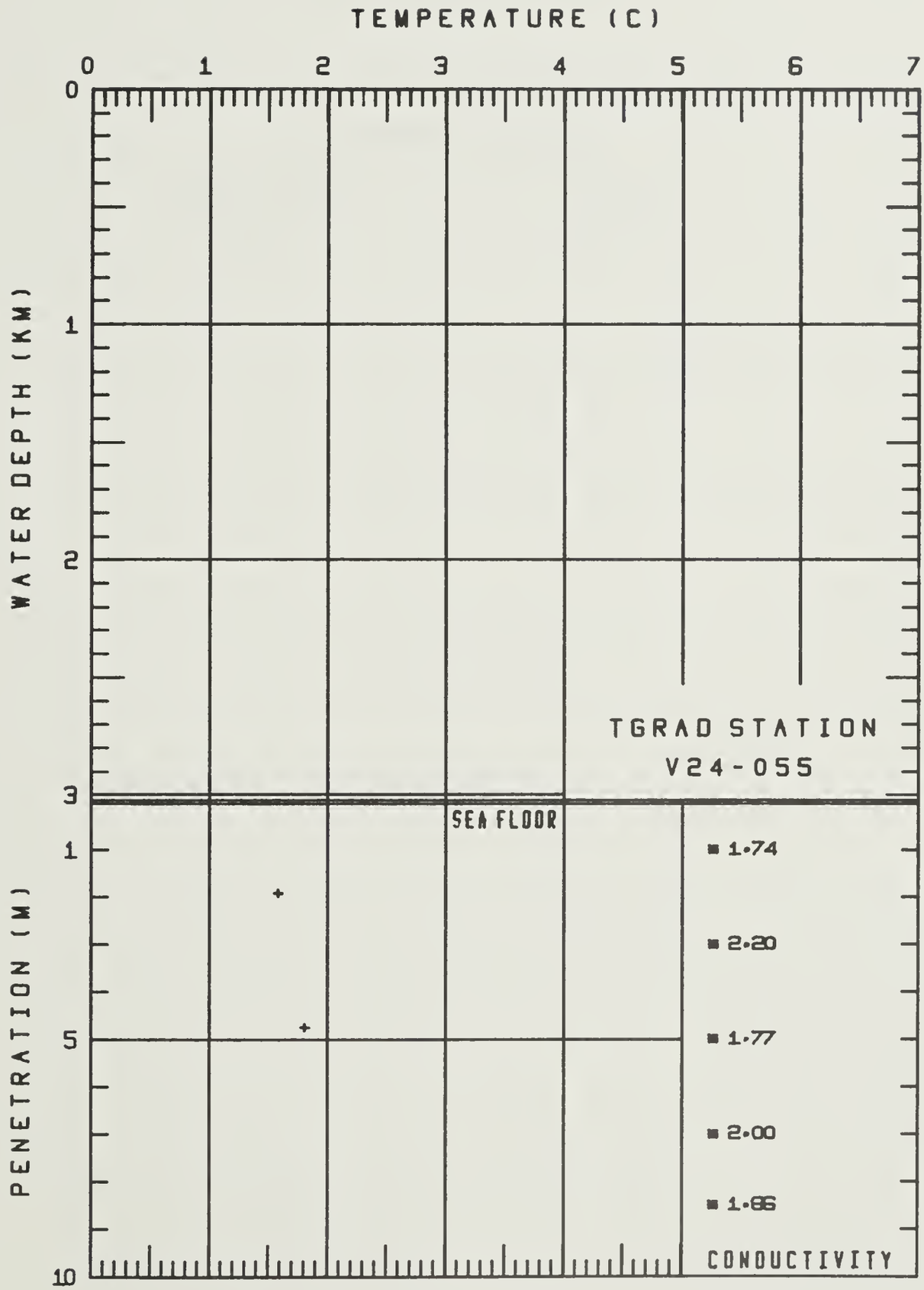
TGRAD STATIONV24-055

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.91	1.58
4.75	1.81

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.74
3.00	2.20
5.00	1.77
7.00	2.00
8.50	1.86


TEMPERATURE (C)
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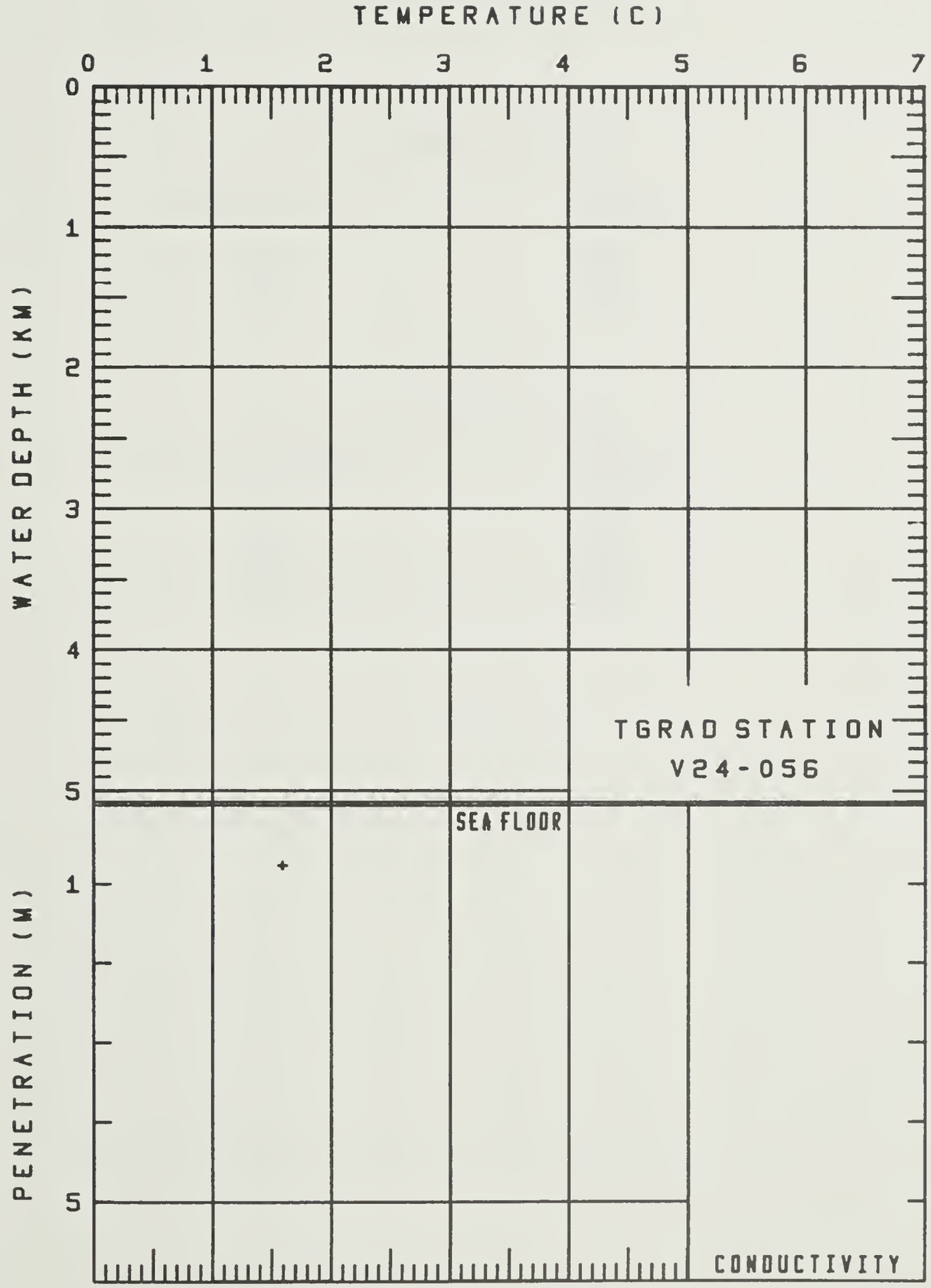
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-055
SEA FLOOR
PENETRATION (M)
1
5
10
1.74
2.20
1.77
2.00
1.86
CONDUCTIVITY

TGRAD STATIONV24-056

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.77	1.58


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-056
SEA FLOOR
PENETRATION (M)
1
5
CONDUCTIVITY

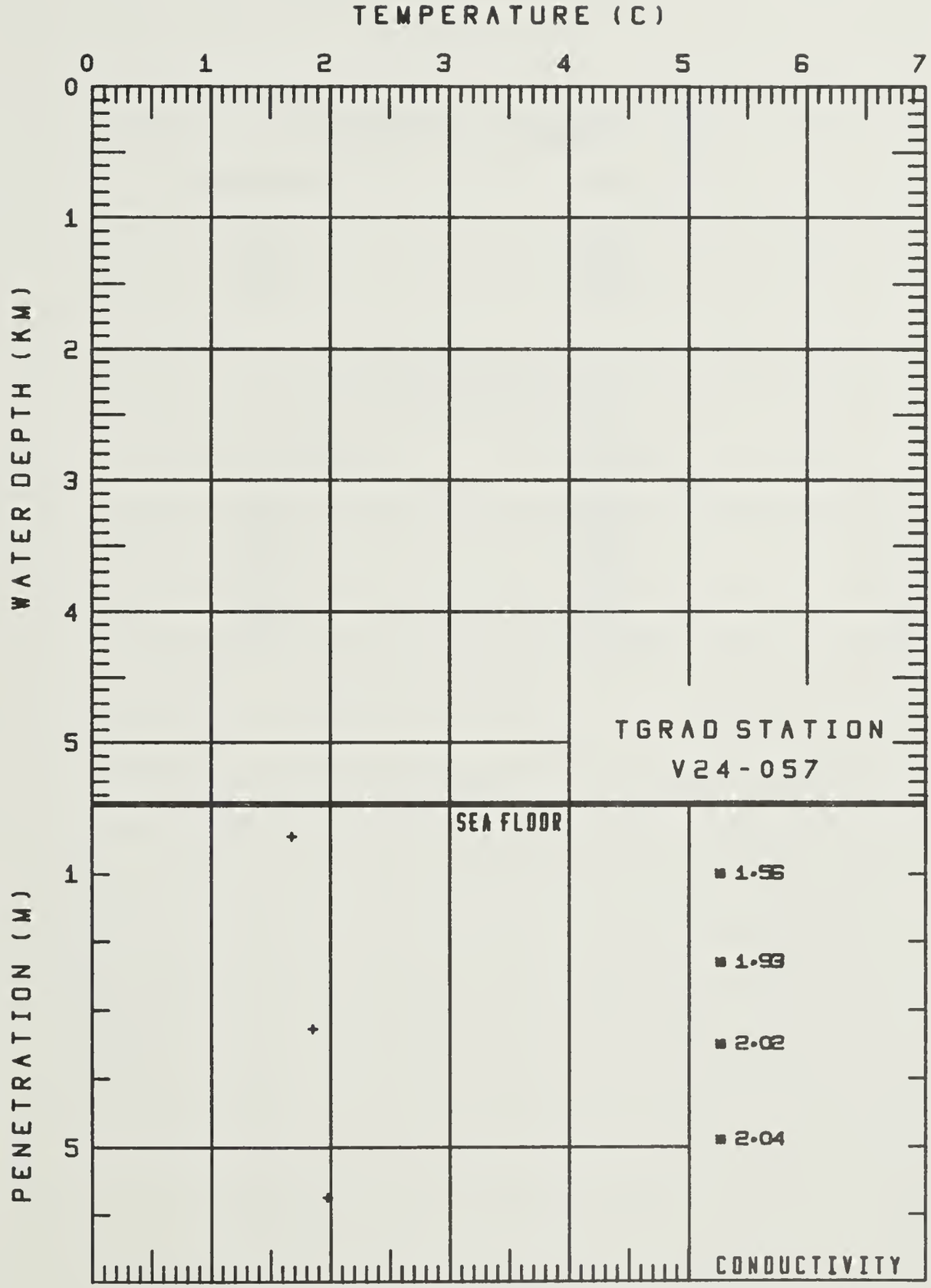
TGRAD STATIONV24-057

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.46	1.67
3.28	1.85
5.74	1.97

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.56
2.30	1.93
3.50	2.02
4.90	2.04


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-057
SEA FLOOR
PENETRATION (M)
1
5
1.56
1.93
2.02
2.04
CONDUCTIVITY

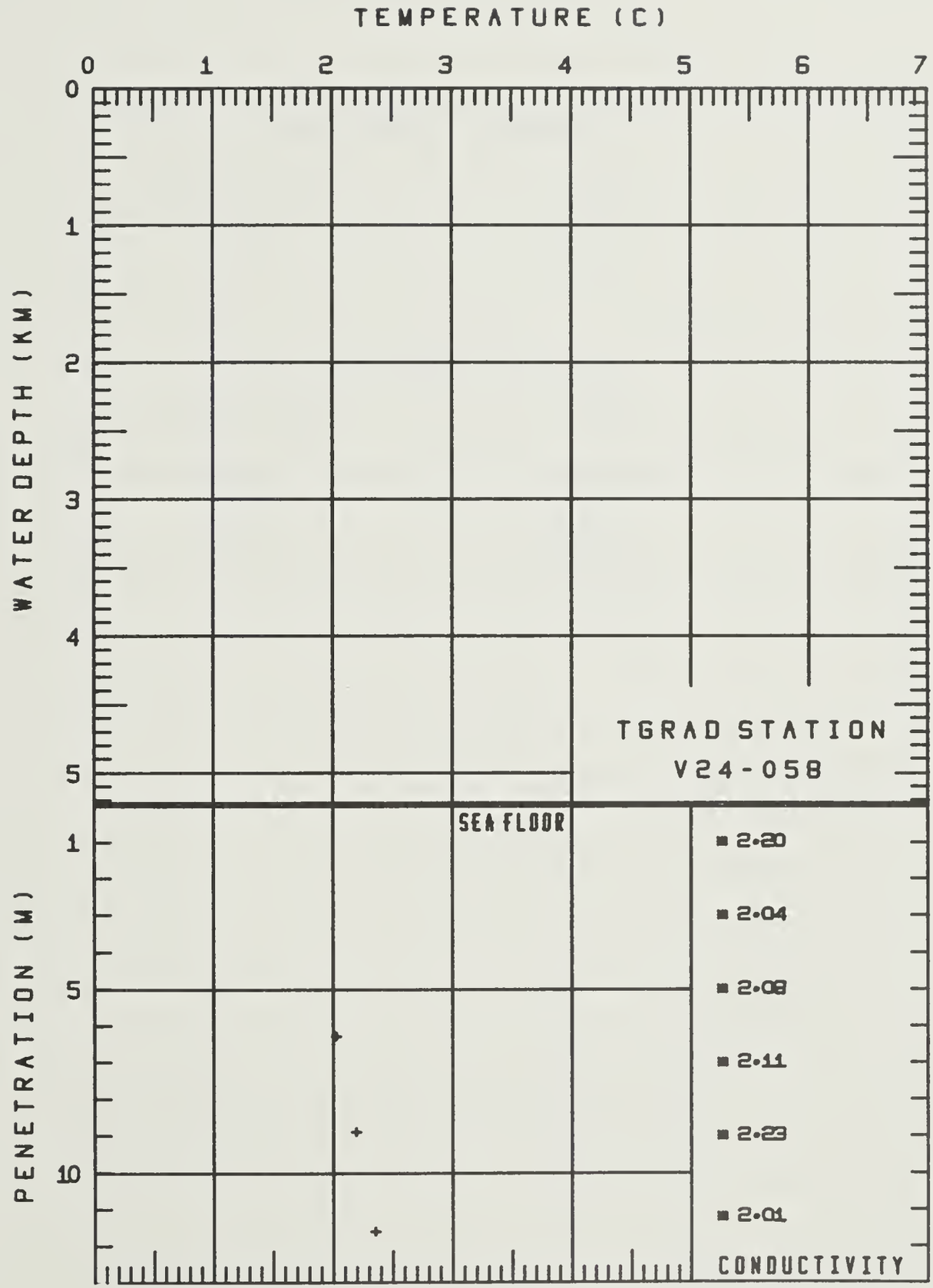
TGRAD STATIONV24-058

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
6.29	2.03
8.88	2.19
11.59	2.35

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.20
3.00	2.04
5.00	2.08
7.00	2.11
9.00	2.23
11.20	2.01


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-058
SEA FLOOR
PENETRATION (M)
1
5
10
2·20
2·04
2·08
2·11
2·23
2·01
CONDUCTIVITY

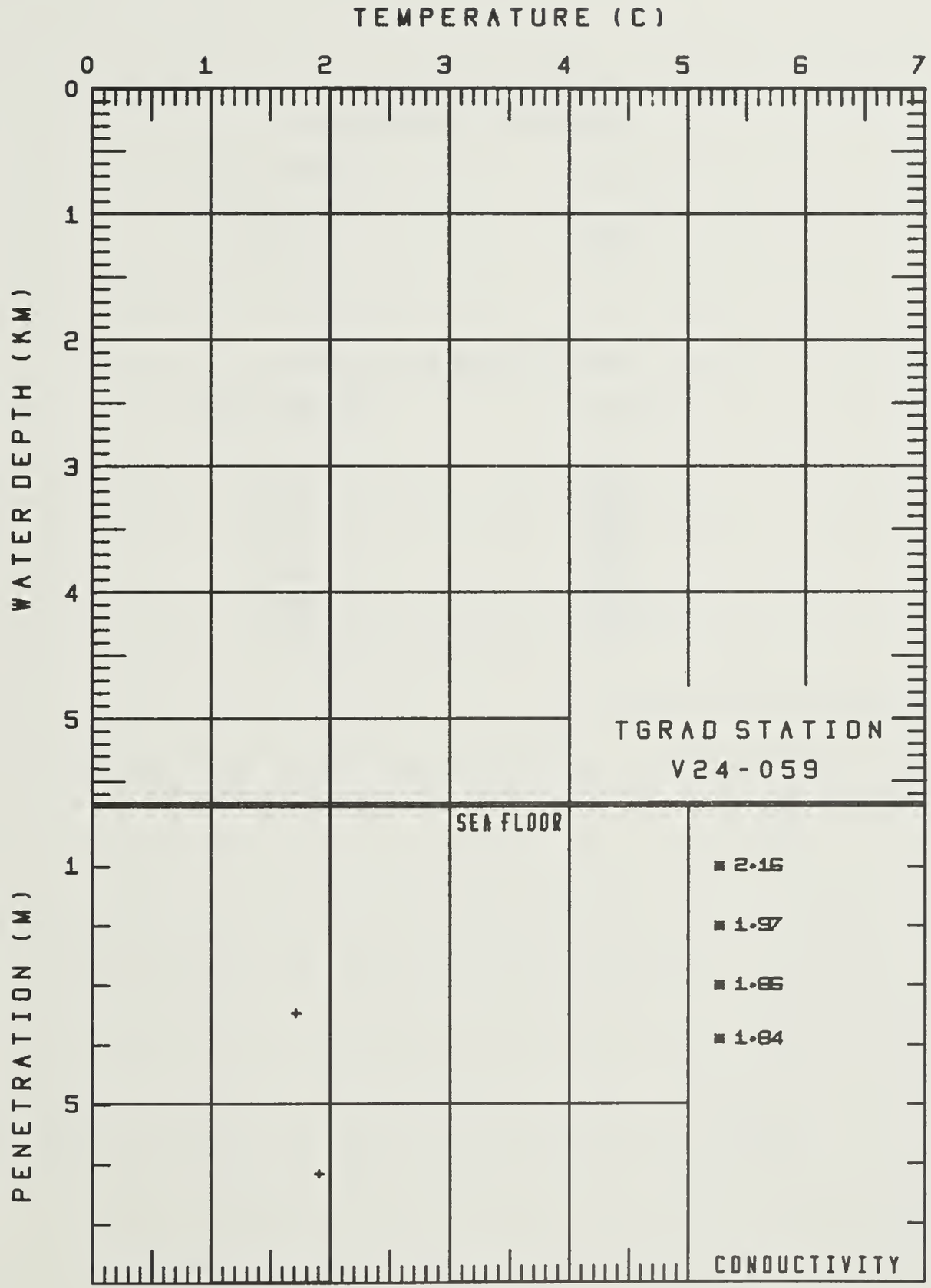
TGRAD STATIONV24-059

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.45	1.71
6.14	1.91

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.16
2.00	1.97
3.00	1.86
3.90	1.84


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-059
SEA FLOOR
PENETRATION (M)
1
5
= 2.16
= 1.97
= 1.85
= 1.84
CONDUCTIVITY

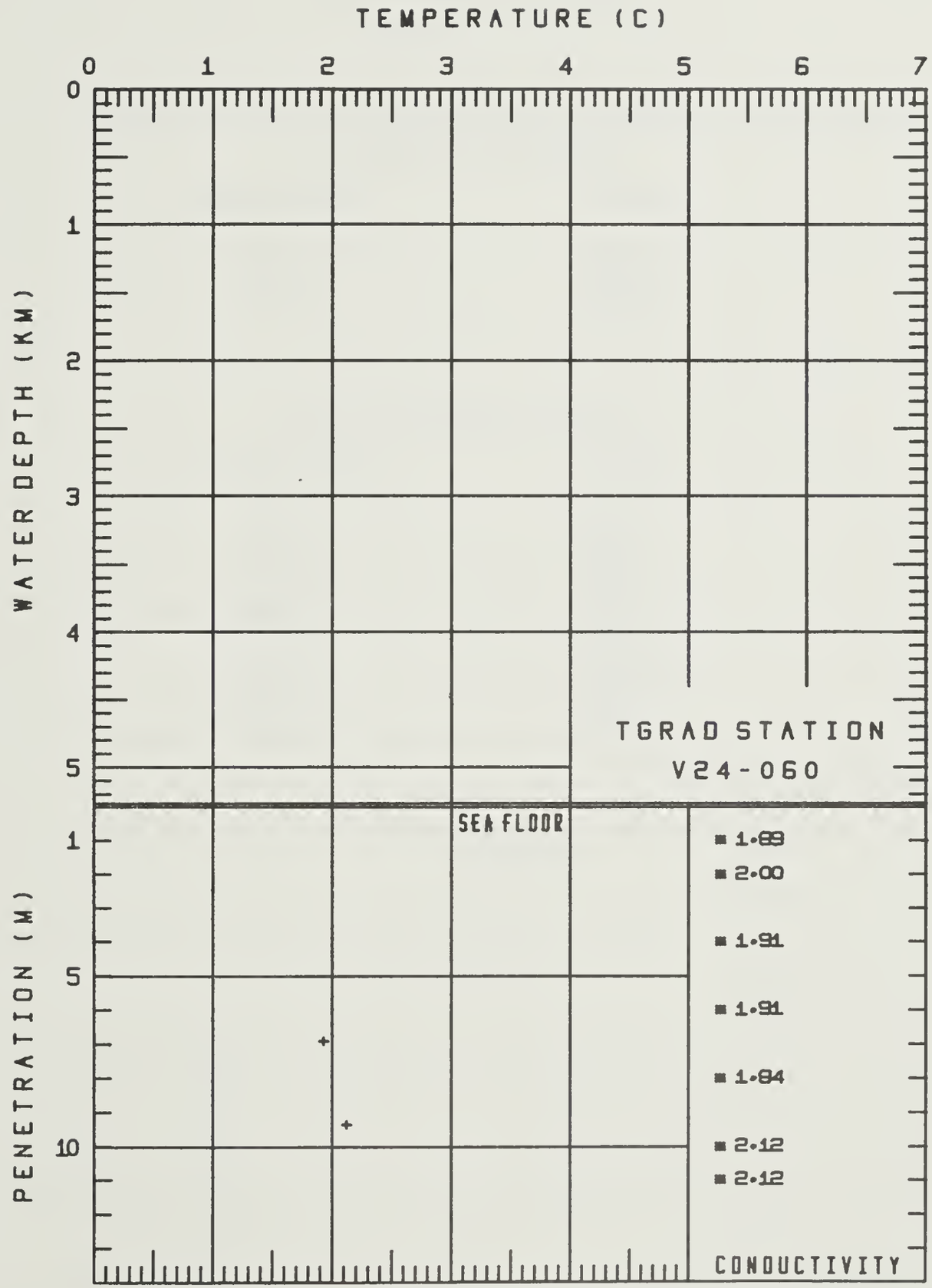
TGRAD STATIONV24-060

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
6.91	1.93
9.35	2.12

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.89
2.00	2.00
4.00	1.91
6.00	1.91
8.00	1.84
10.00	2.12
11.00	2.12


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-060
SEA FLOOR
PENETRATION (M)
1
5
10
1.89
2.00
1.91
1.91
1.84
2.12
2.12
CONDUCTIVITY

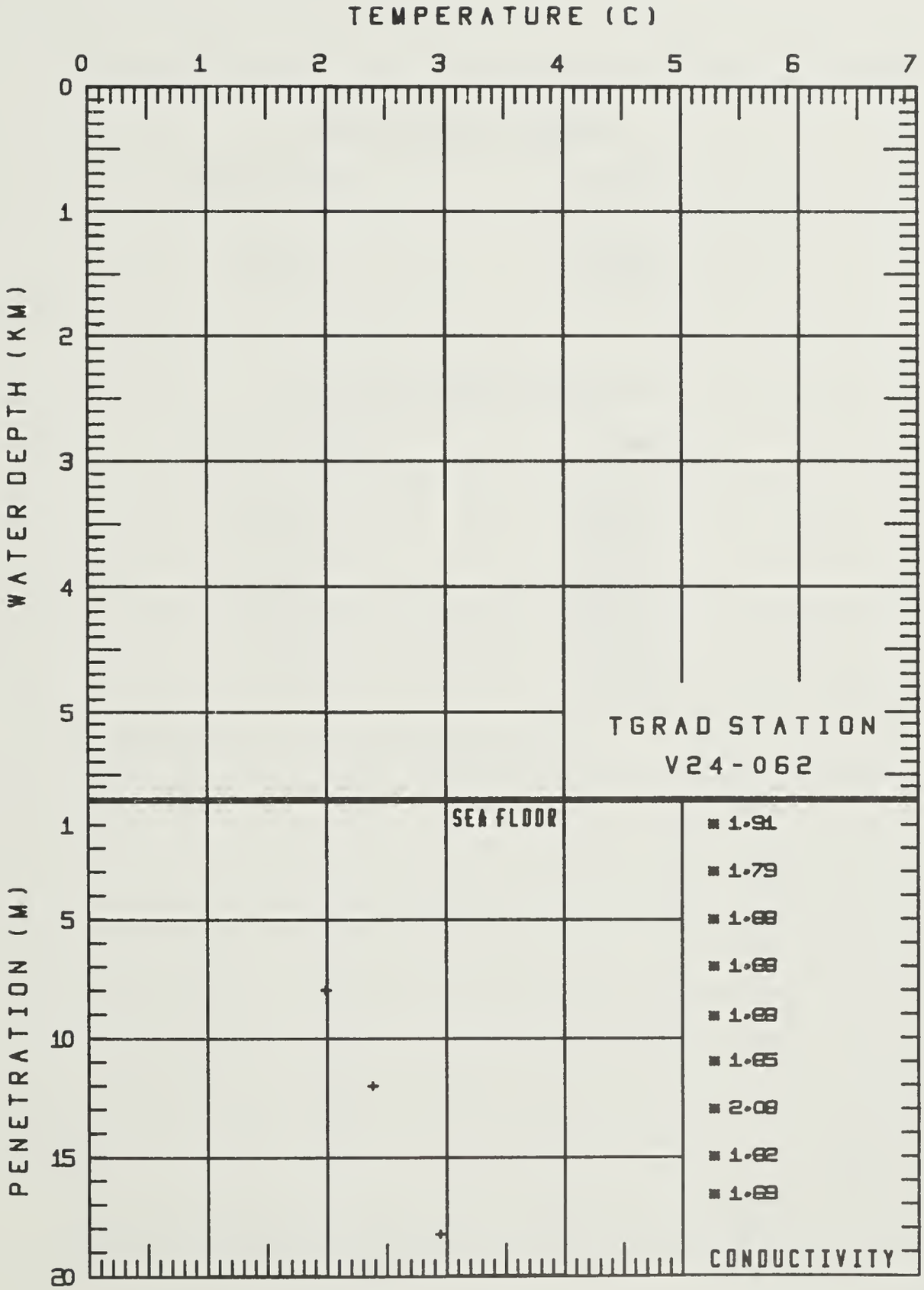
TGRAD STATIONV24-062

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
7.96	1.99
12.00	2.38
18.22	2.95

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.91
3.00	1.79
5.00	1.88
7.00	1.88
9.10	1.88
11.00	1.85
13.00	2.08
15.00	1.82
16.60	1.69


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-062
PENETRATION (M)
1
5
10
15
20
SEA FLOOR
1.91
1.79
1.88
1.88
1.88
1.85
2.08
1.82
1.83
CONDUCTIVITY

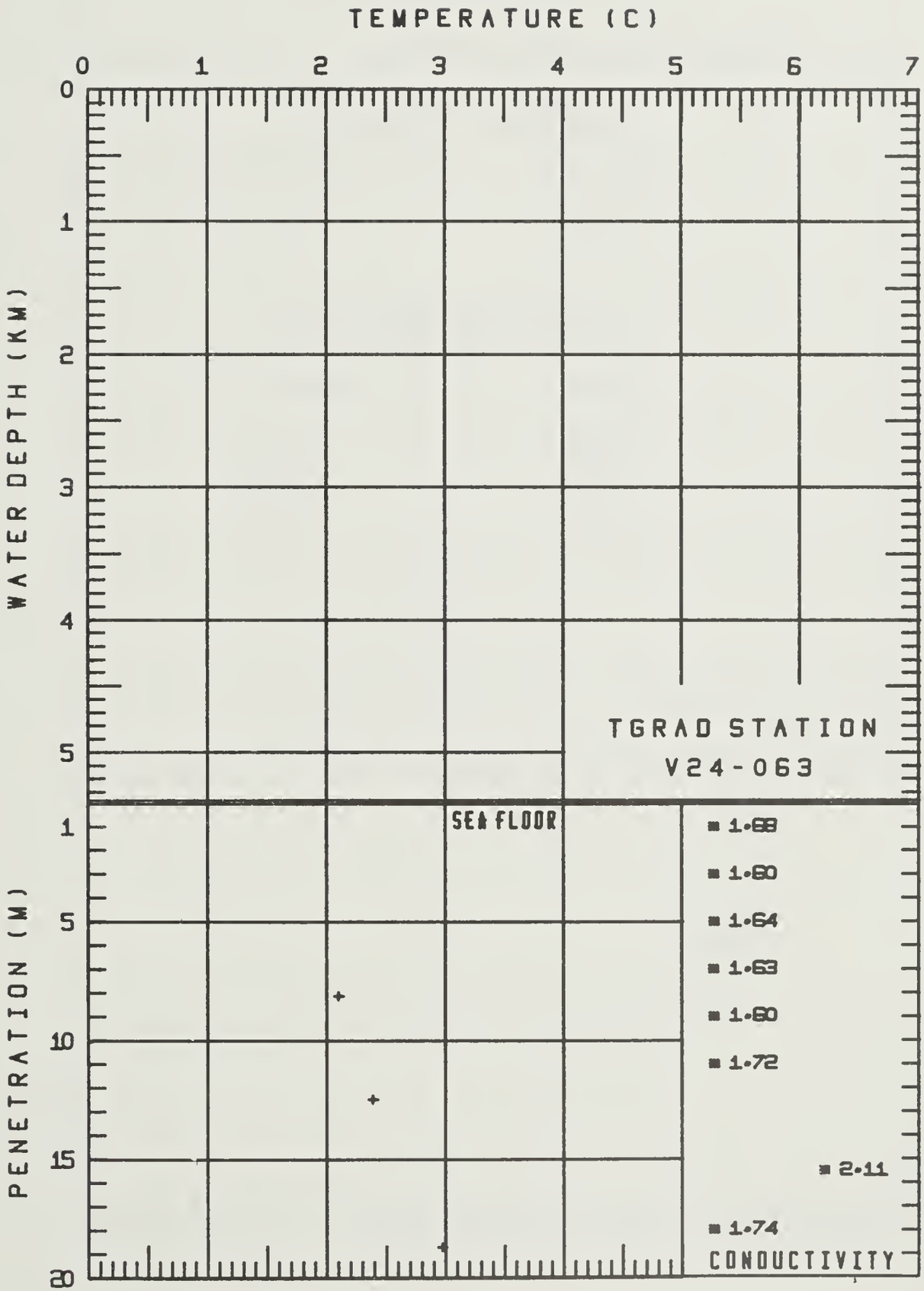
TGRAD STATIONV24-063

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
8.15	2.10
12.47	2.39
18.69	2.97

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.68
3.00	1.60
5.00	1.64
7.00	1.63
9.00	1.60
11.00	1.72
15.50	2.11
18.00	1.74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1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-063
SEA FLOOR
= 1.88
= 1.80
= 1.64
= 1.63
= 1.80
= 1.72
= 2.11
= 1.74
CONDUCTIVITY

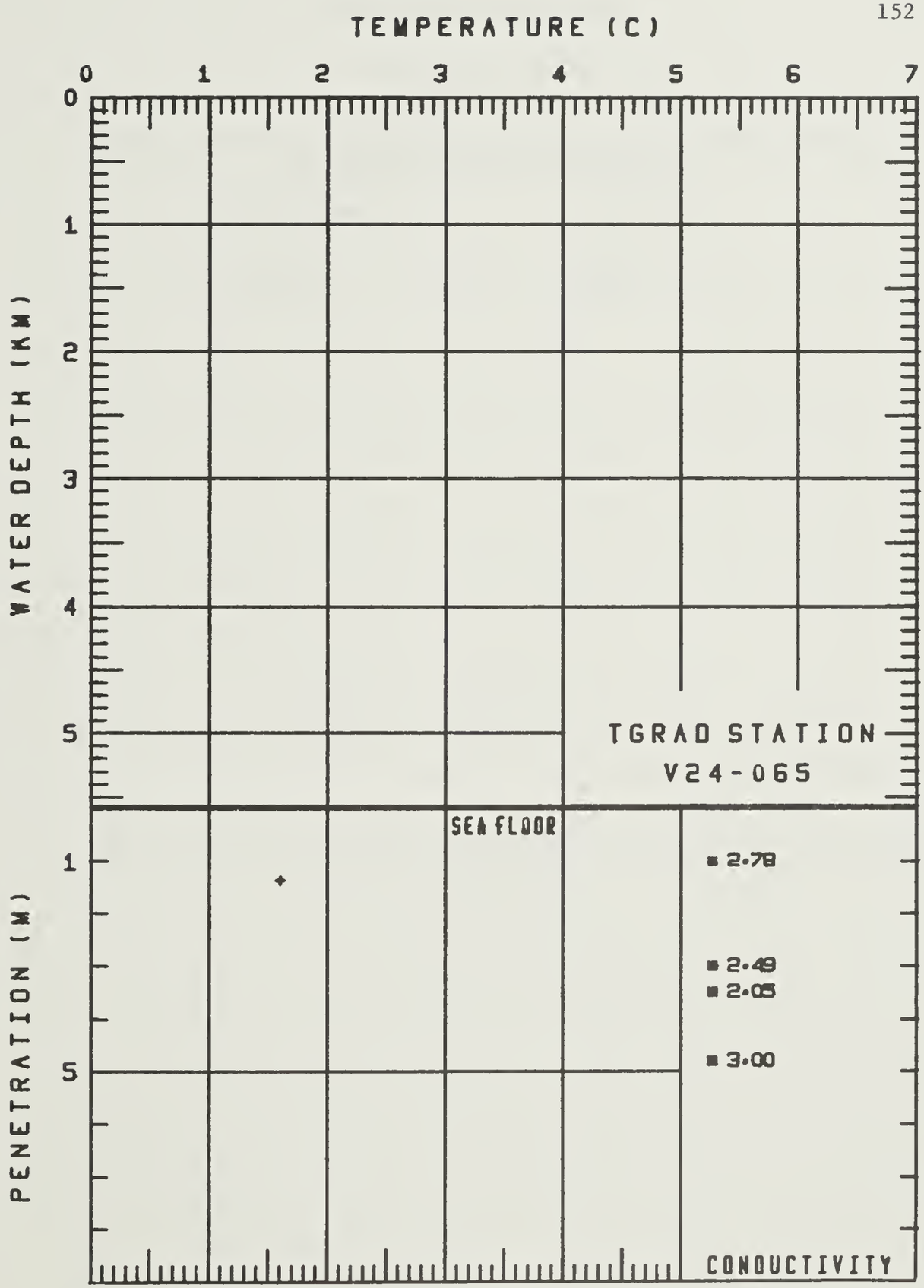
TGRAD STATIONV24-065

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.37	1.60

SEDIMENT CONDUCTIVITIES

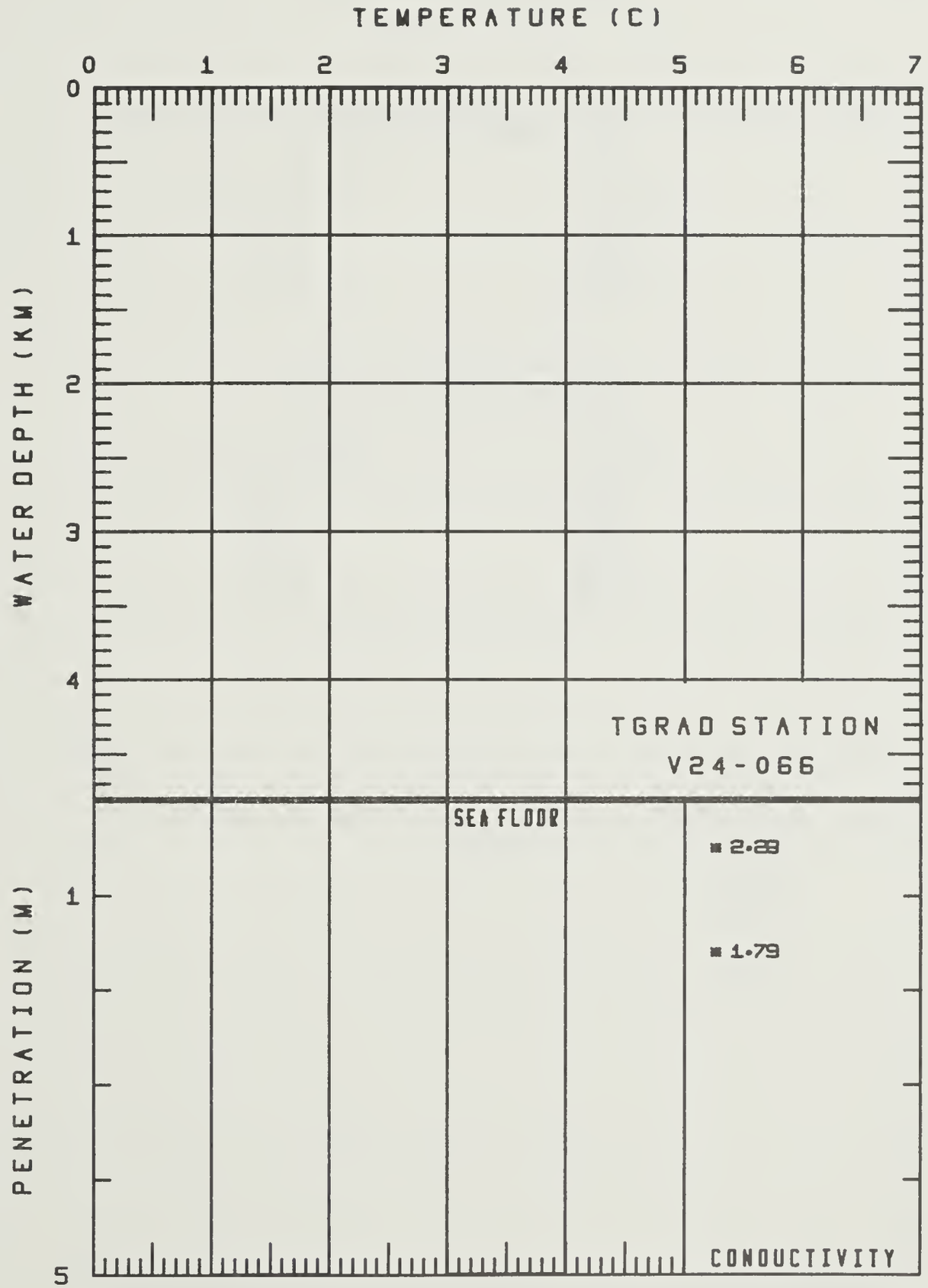
DEPTH	CONDUCTIVITY
1.00	2.78
3.00	2.49
3.50	2.05
4.80	3.00


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-065
SEA FLOOR
PENETRATION (M)
1
5
■ 2.78
■ 2.48
■ 2.08
■ 3.00
CONDUCTIVITY

TGRAD STATIONV24-066

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.50	2.28
1.60	1.79


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-066
SEA FLOOR
PENETRATION (M)
1
5
= 2.28
= 1.79
CONDUCTIVITY

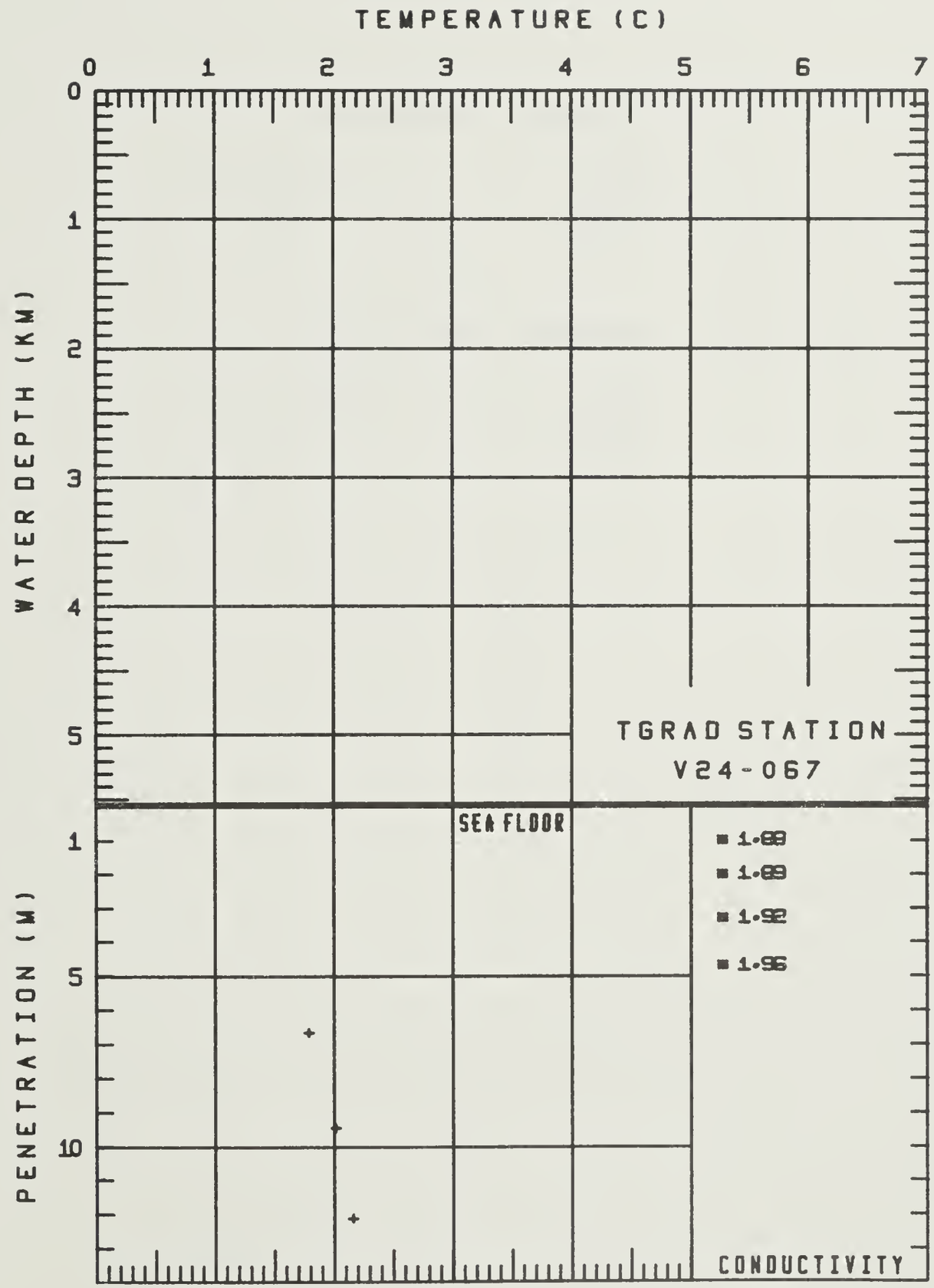
TGRAD STATIONV24-067

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
6.65	1.78
9.45	2.01
12.11	2.16

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.88
2.00	1.89
3.30	1.92
4.70	1.96


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-067
SEA FLOOR
PENETRATION (M)
1
5
10
■ 1.88
■ 1.89
■ 1.92
■ 1.96
CONDUCTIVITY

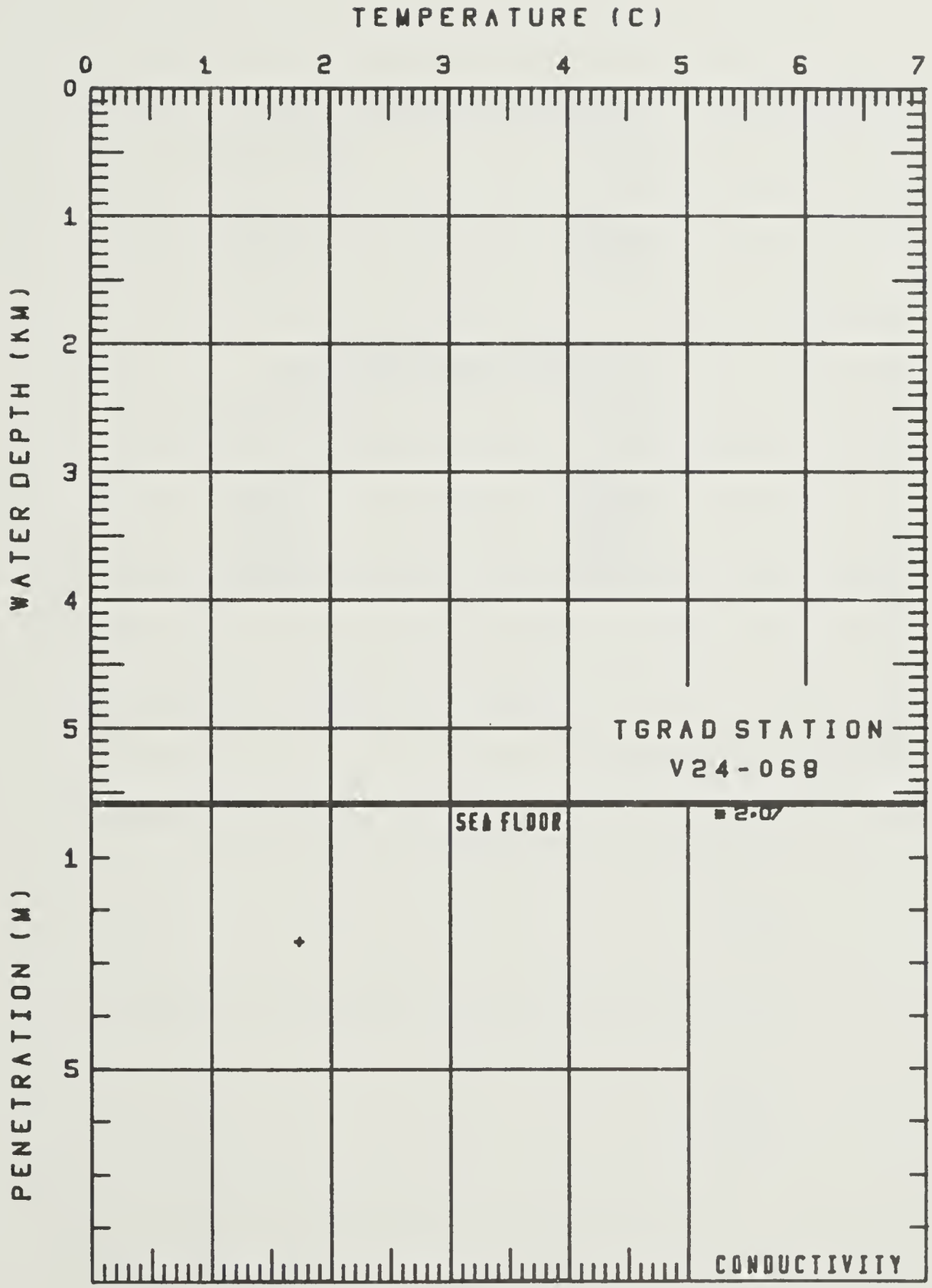
TGRAD STATIONV24-068

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.59	1.73

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.20	2.07


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-068
SEA FLOOR
= 2.0
CONDUCTIVITY

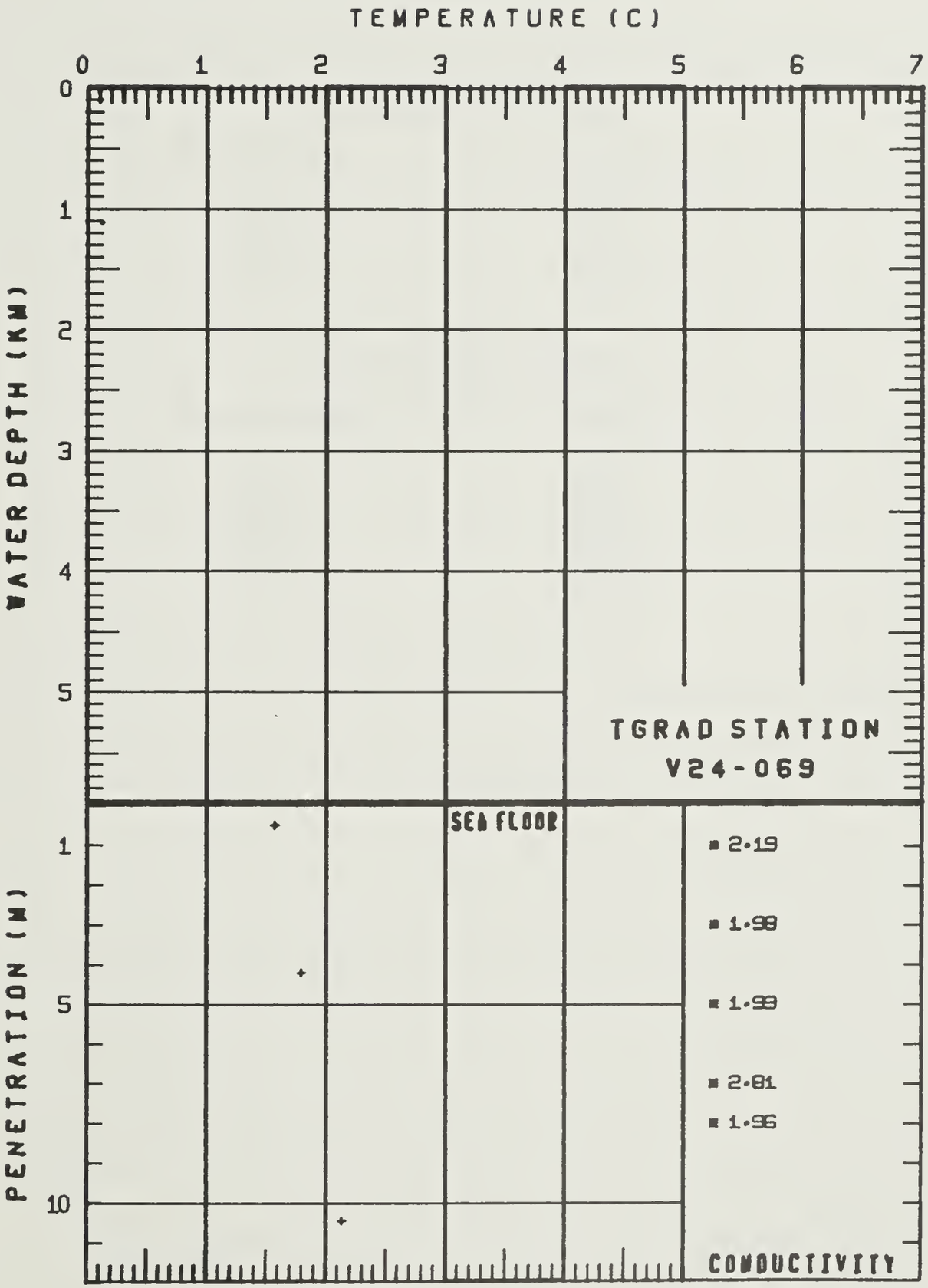
TGRAD STATIONV24-069

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.50	1.58
4.19	1.80
10.43	2.15

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.19
3.00	1.98
5.00	1.99
7.00	2.81
8.00	1.96


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-069
SEA FLOOR
PENETRATION (M)
1
5
10
2.19
1.98
1.99
2.81
1.96
CONDUCTIVITY

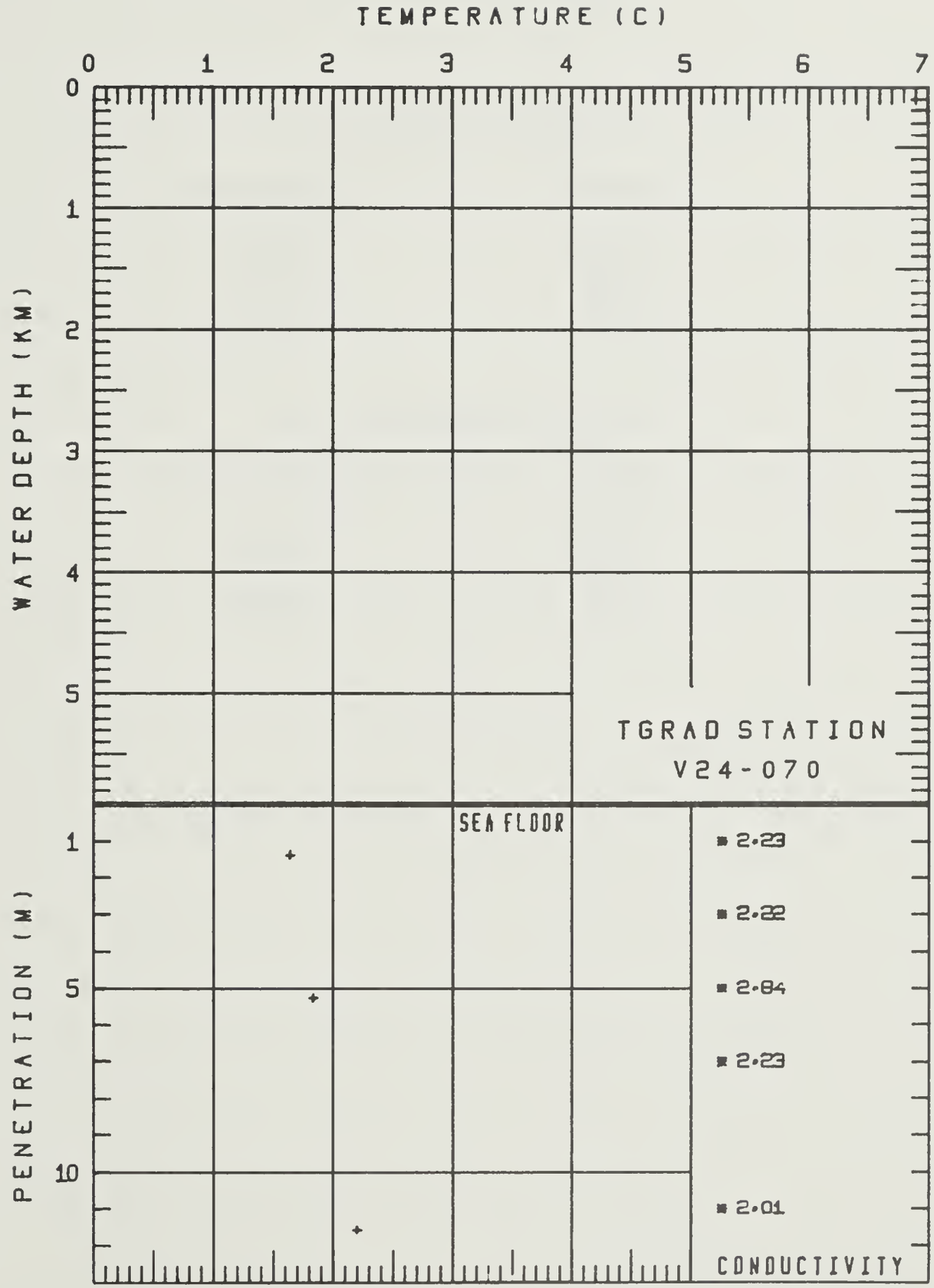
TGRAD STATIONV24-070

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.37	1.64
5.26	1.83
11.58	2.20

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.23
3.00	2.22
5.00	2.84
7.00	2.23
11.00	2.01


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-070
SEA FLOOR
PENETRATION (M)
1
5
10
2.23
2.22
2.84
2.23
2.01
CONDUCTIVITY

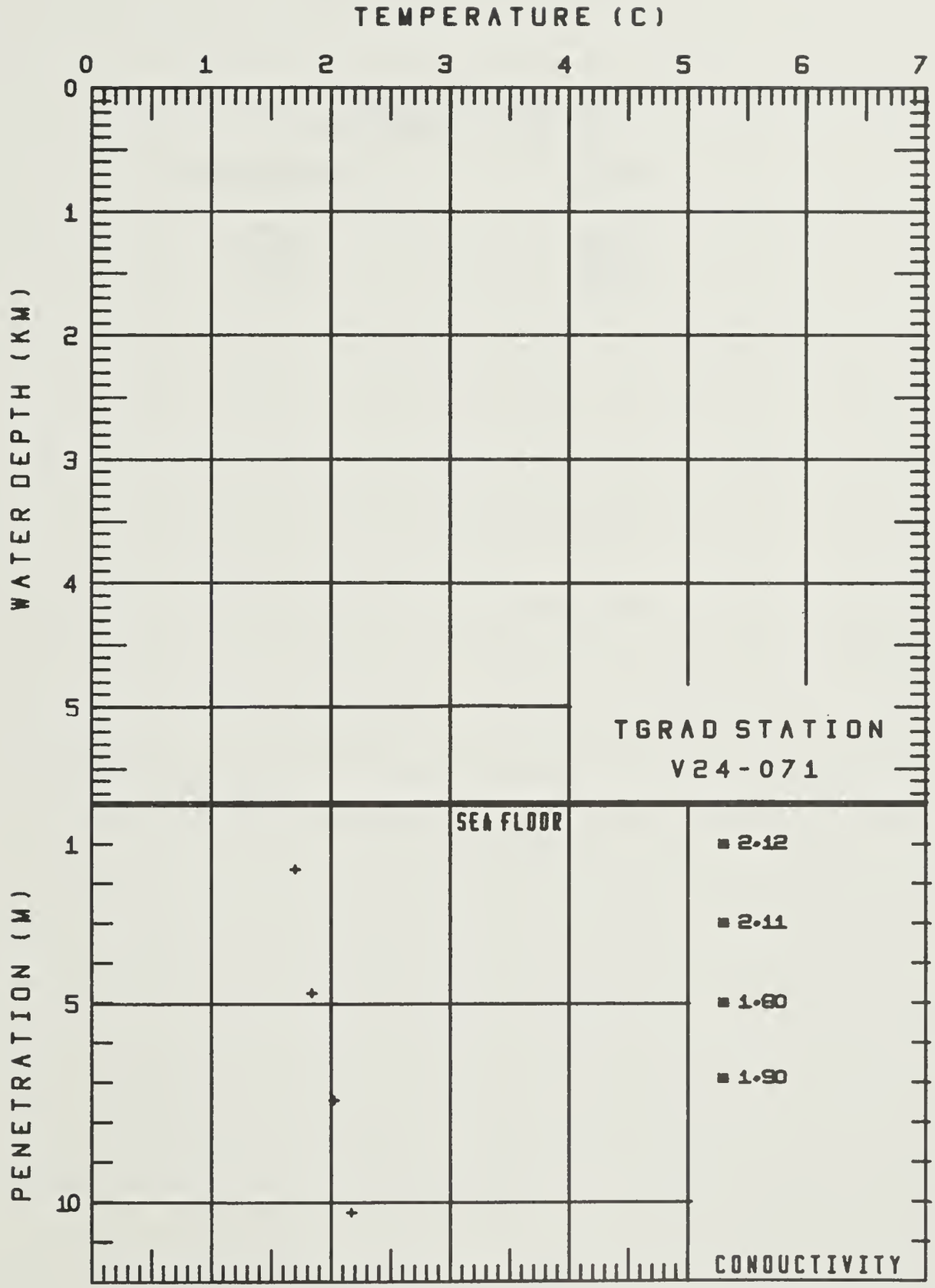
TGRAD STATIONV24-071

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.63	1.67
4.73	1.80
7.43	1.99
10.27	2.14

SEDIMENT CONDUCTIVITIES

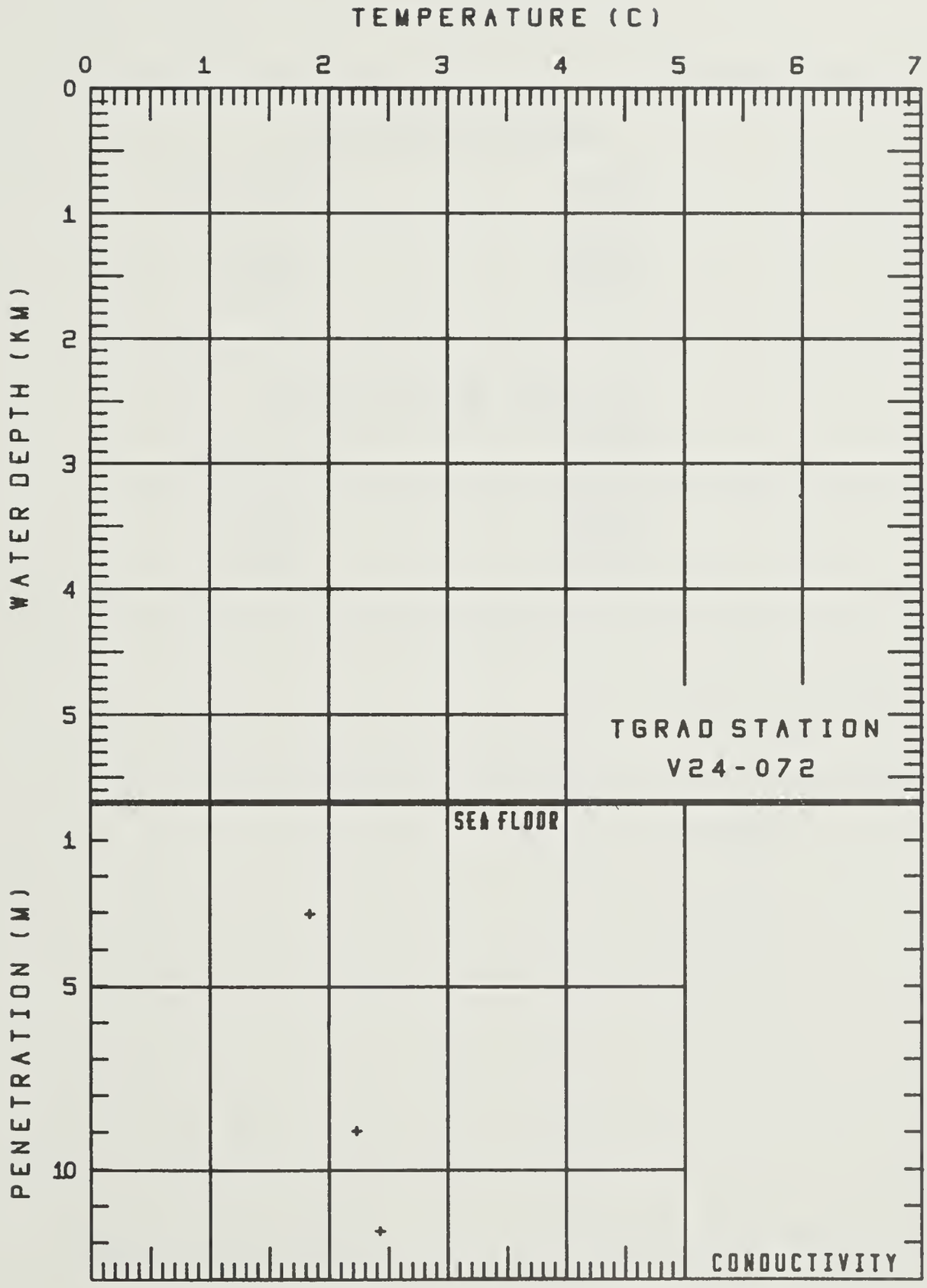
DEPTH	CONDUCTIVITY
1.00	2.12
3.00	2.11
5.00	1.80
6.90	1.90


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-071
SEA FLOOR
PENETRATION (M)
1
5
10
■ 2.12
■ 2.11
■ 1.80
■ 1.90
CONDUCTIVITY

TGRAD STATIONV24-072

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.02	1.83
8.94	2.24
11.68	2.43


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-072
SEA FLOOR
PENETRATION (M)
1
5
10
CONDUCTIVITY

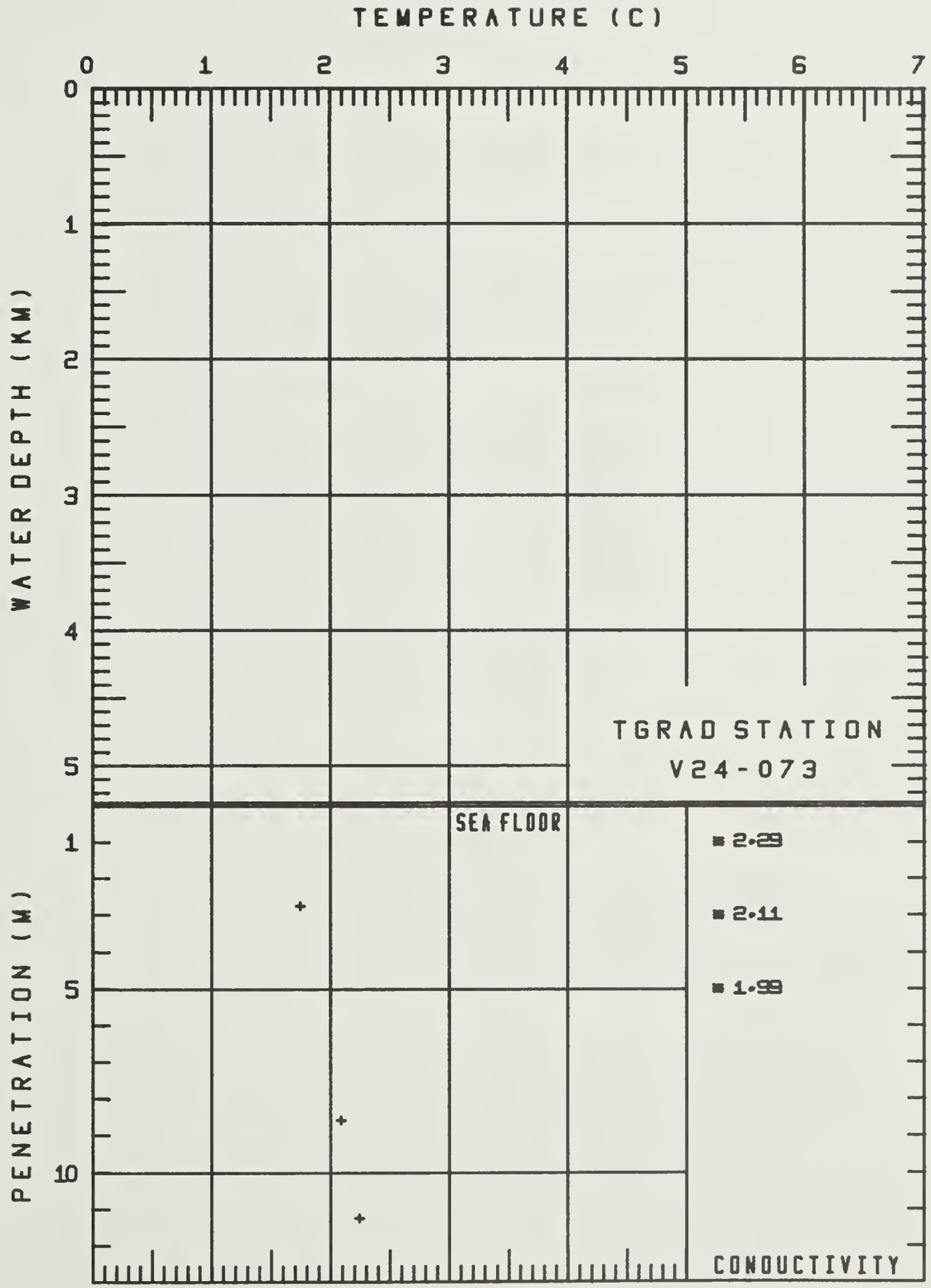
TGRAD STATIONV24-073

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.76	1.74
8.57	2.09
11.24	2.24

SEDIMENT CONDUCTIVITIES

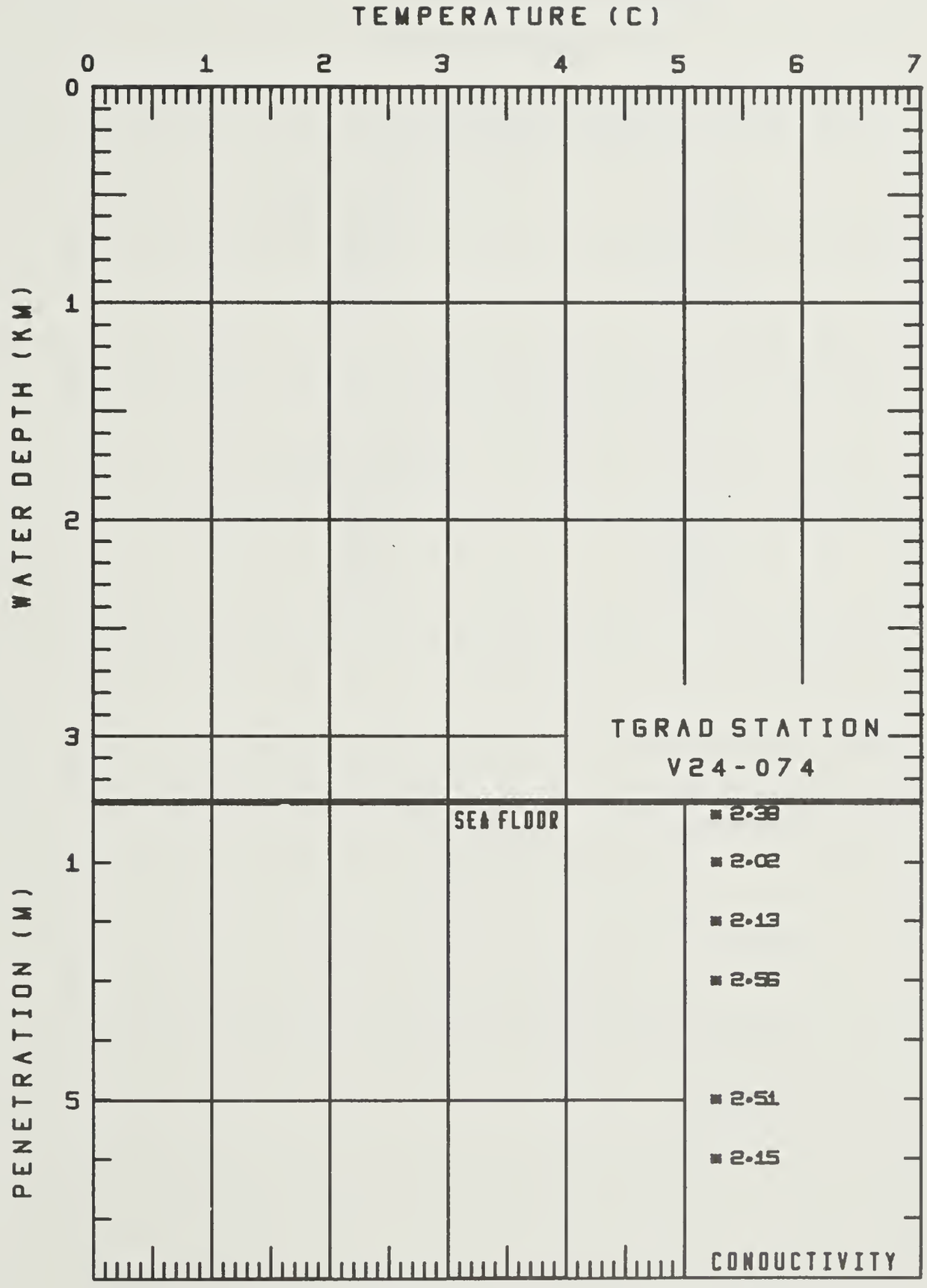
DEPTH	CONDUCTIVITY
1.00	2.29
3.00	2.11
5.00	1.99


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-073
SEA FLOOR
PENETRATION (M)
1
5
10
= 2.23
= 2.11
= 1.99
CONDUCTIVITY

TGRAD STATIONV24-074

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.20	2.38
1.00	2.02
2.00	2.13
3.00	2.56
5.00	2.51
6.00	2.15


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-074
SEA FLOOR
PENETRATION (M)
1
5
= 2.38
= 2.02
= 2.13
= 2.56
= 2.51
= 2.15
CONDUCTIVITY

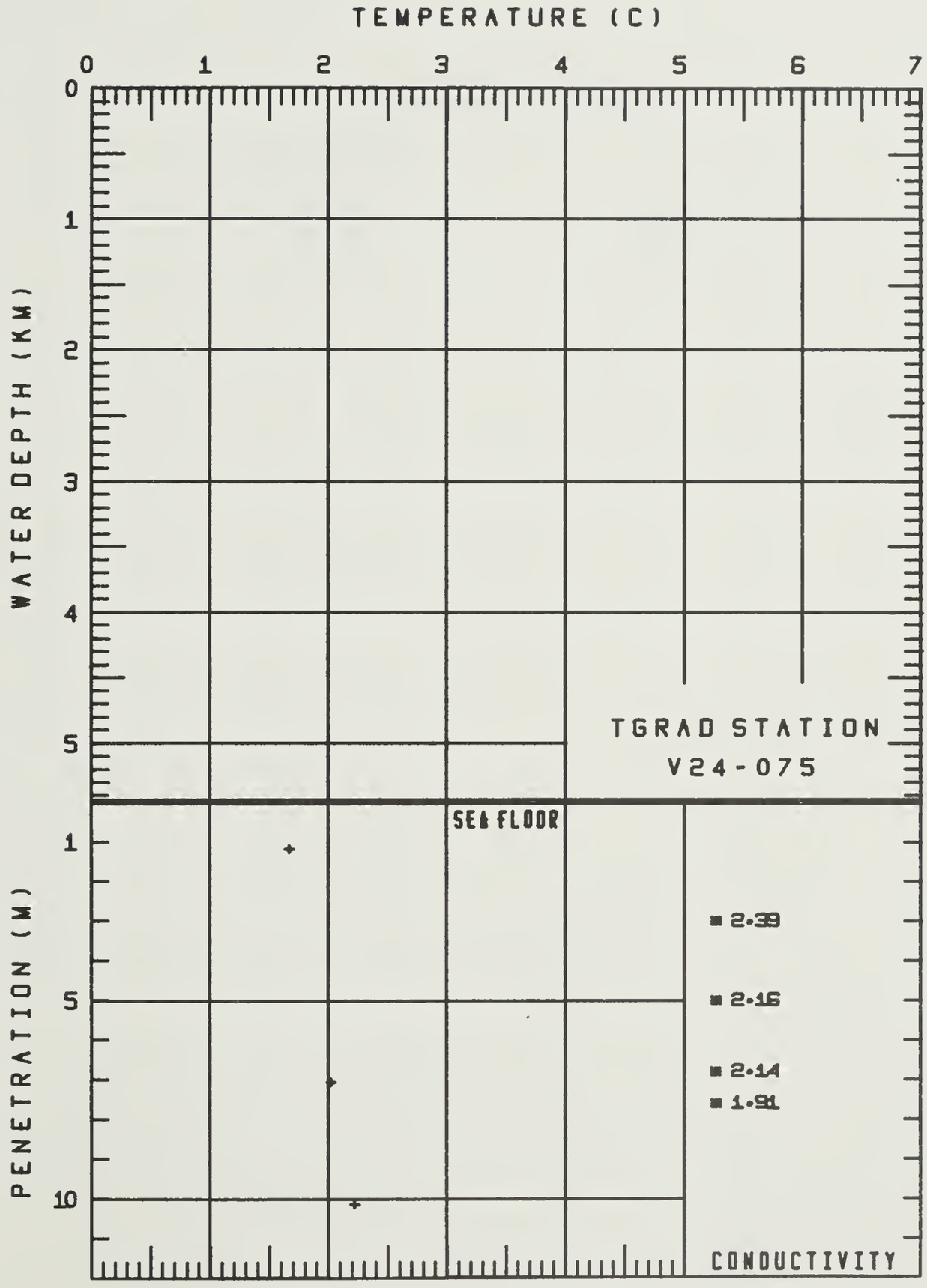
TGRAD STATIONV24-075

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.17	1.67
7.06	2.02
10.14	2.22

SEDIMENT CONDUCTIVITIES

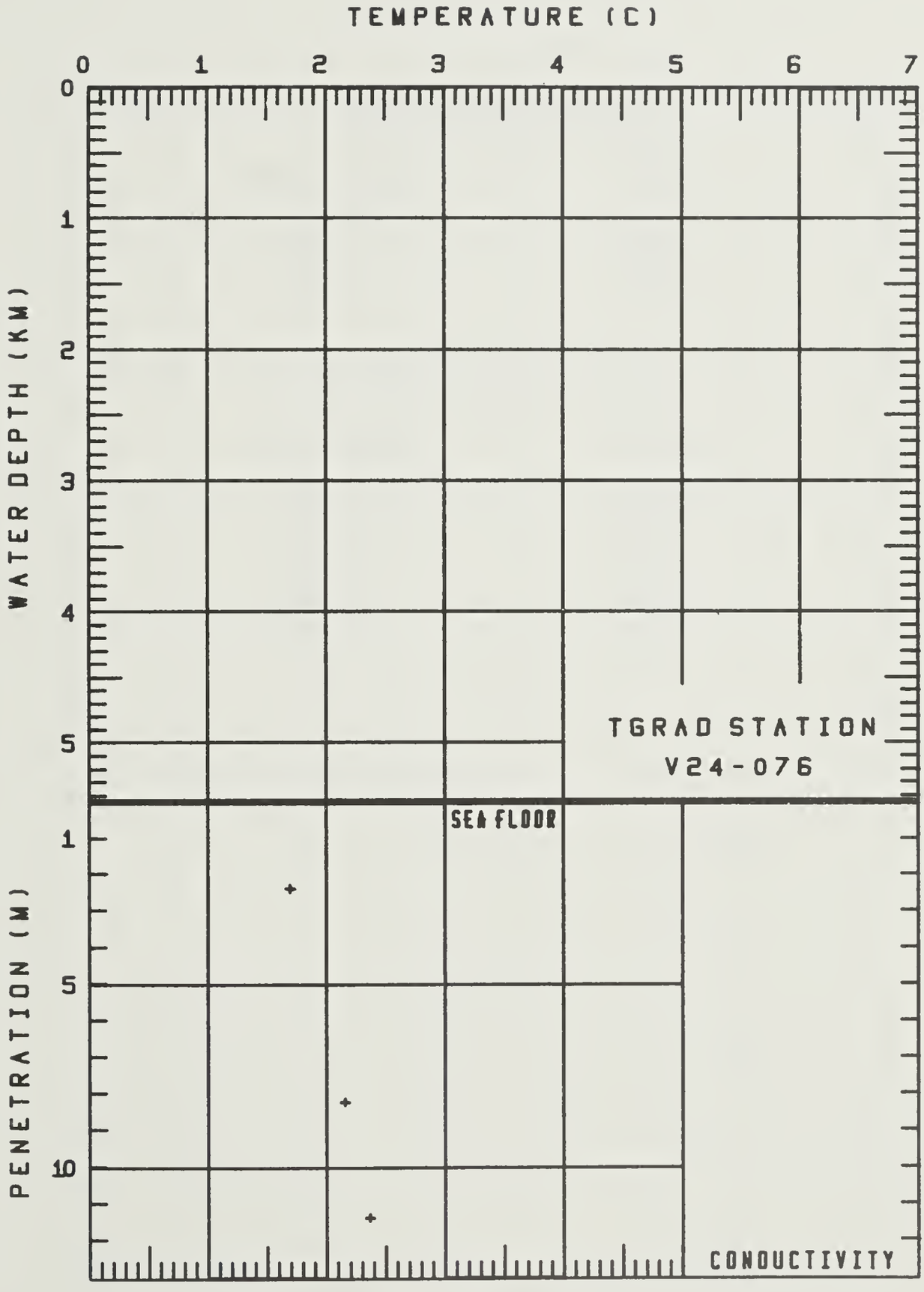
DEPTH	CONDUCTIVITY
3.00	2.39
5.00	2.16
6.80	2.14
7.60	1.91


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-075
SEA FLOOR
PENETRATION (M)
1
5
10
2.38
2.16
2.14
1.91
CONDUCTIVITY

TGRAD STATIONV24-076

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.39	1.70
8.23	2.16
11.39	2.37


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-076
SEA FLOOR
PENETRATION (M)
1
5
10
CONDUCTIVITY

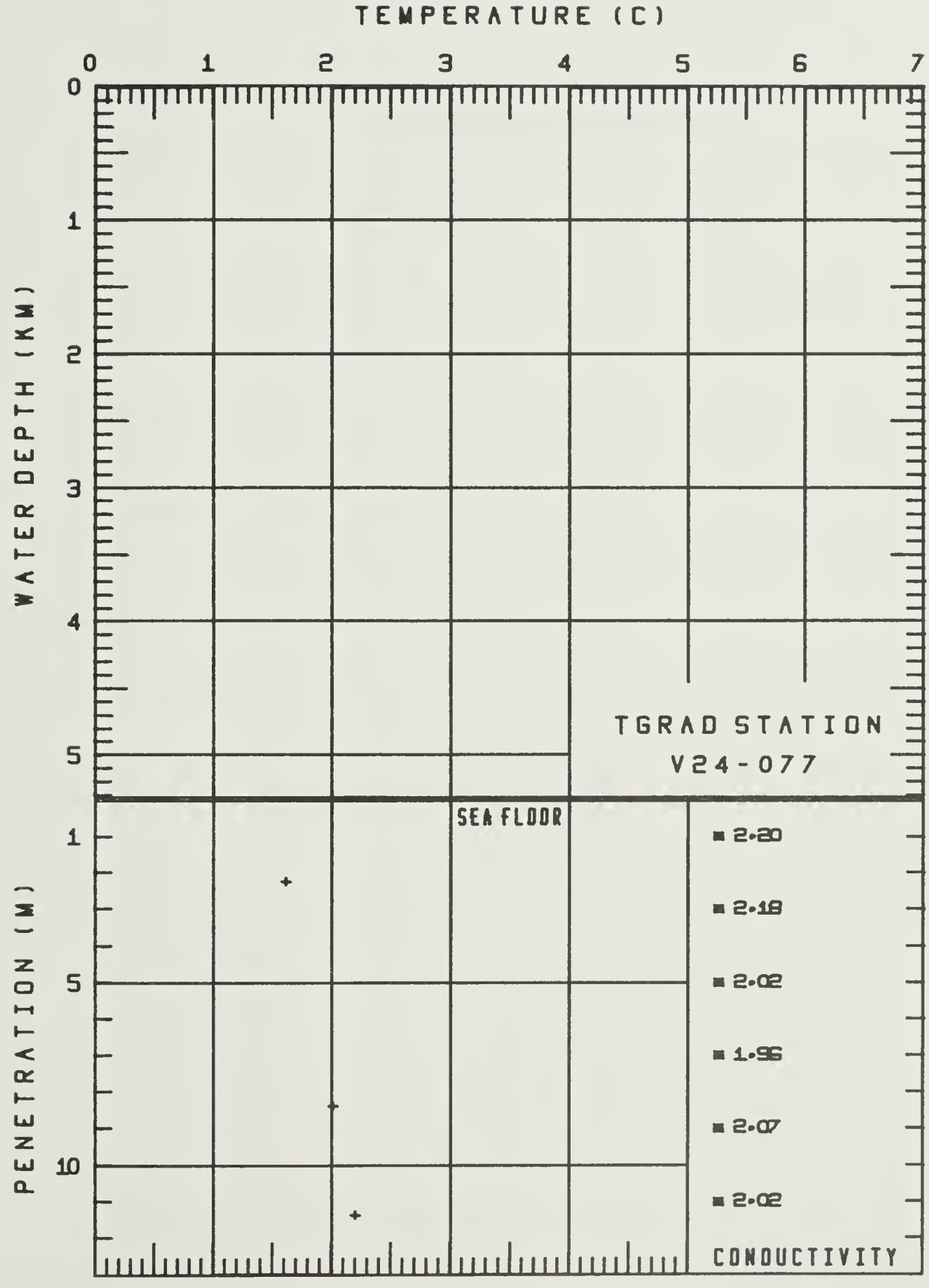
TGRAD STATIONV24-077

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.23	1.62
8.38	2.01
11.37	2.20

SEDIMENT CONDUCTIVITIES

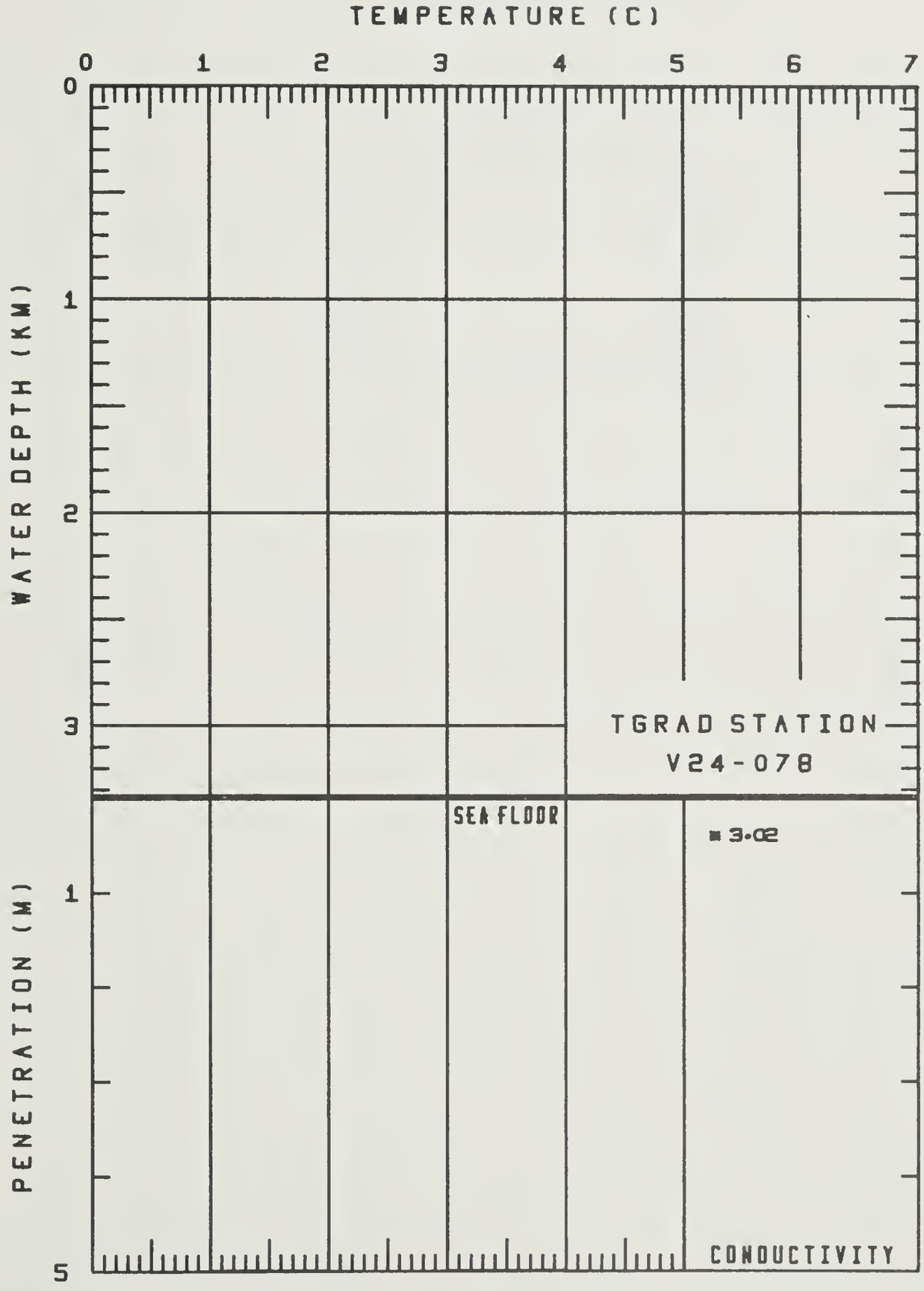
DEPTH	CONDUCTIVITY
1.00	2.20
3.00	2.18
5.00	2.02
7.00	1.96
9.00	2.07
11.00	2.02


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-077
SEA FLOOR
PENETRATION (M)
1
5
10
= 2.20
= 2.18
= 2.02
= 1.96
= 2.07
= 2.02
CONDUCTIVITY

TGRAD STATIONV24-078

SEDIMENT CONDUCTIVITIES

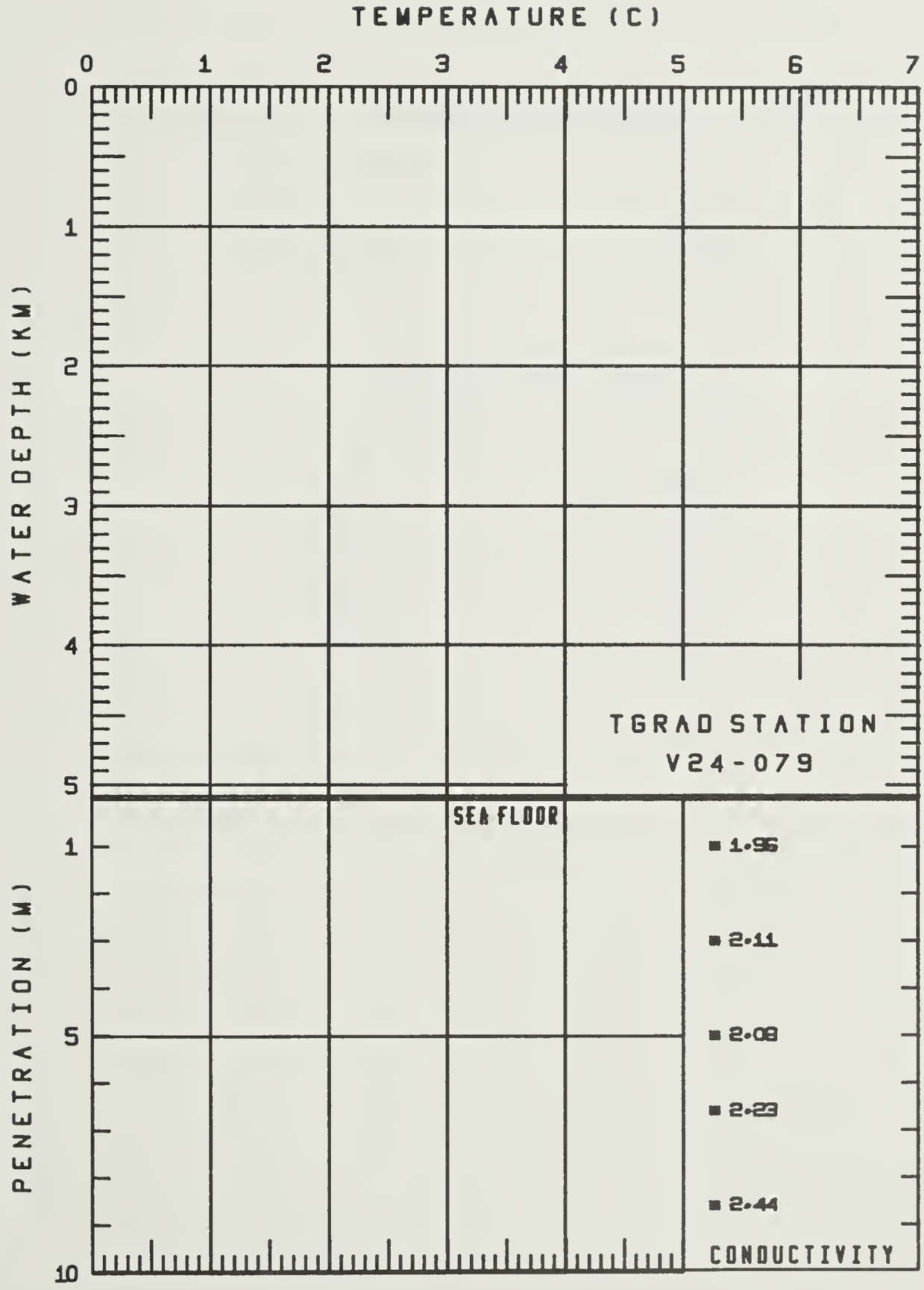
DEPTH	CONDUCTIVITY
0.40	3.02


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-078
SEA FLOOR
PENETRATION (M)
1
5
= 3.02
CONDUCTIVITY

TGRAD STATIONV24-079

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.96
3.00	2.11
5.00	2.08
6.60	2.23
8.60	2.44


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-079
SEA FLOOR
PENETRATION (M)
1
5
10
1.95
2.11
2.08
2.23
2.44
CONDUCTIVITY

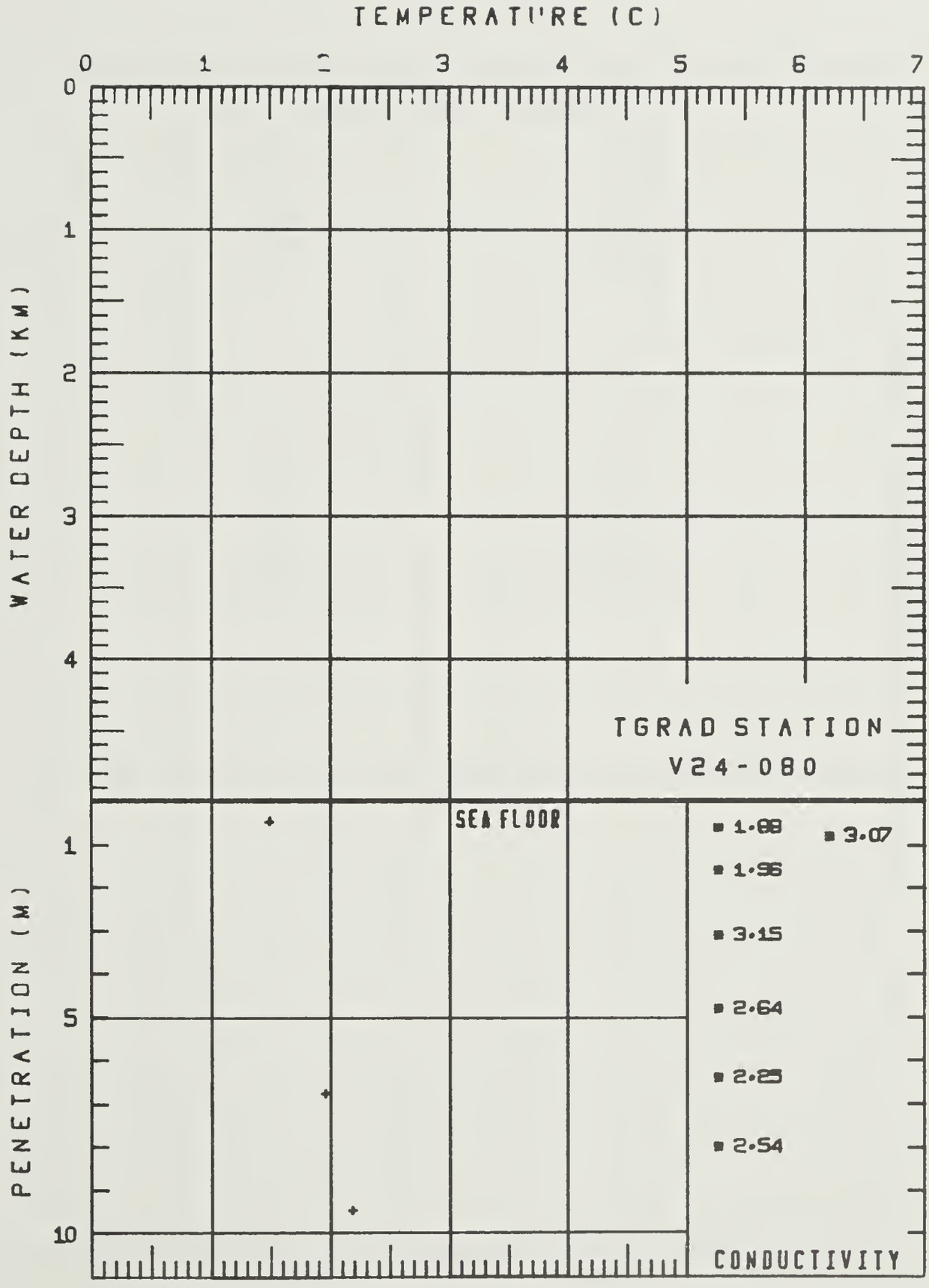
TGRAD STATIONV24-080

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.45	1.49
6.77	1.96
9.46	2.19

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.60	1.88
0.80	3.07
1.60	1.96
3.10	3.15
4.80	2.64
6.40	2.25
8.00	2.54


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-080
1.88
3.07
1.96
3.15
2.64
2.25
2.54
CONDUCTIVITY

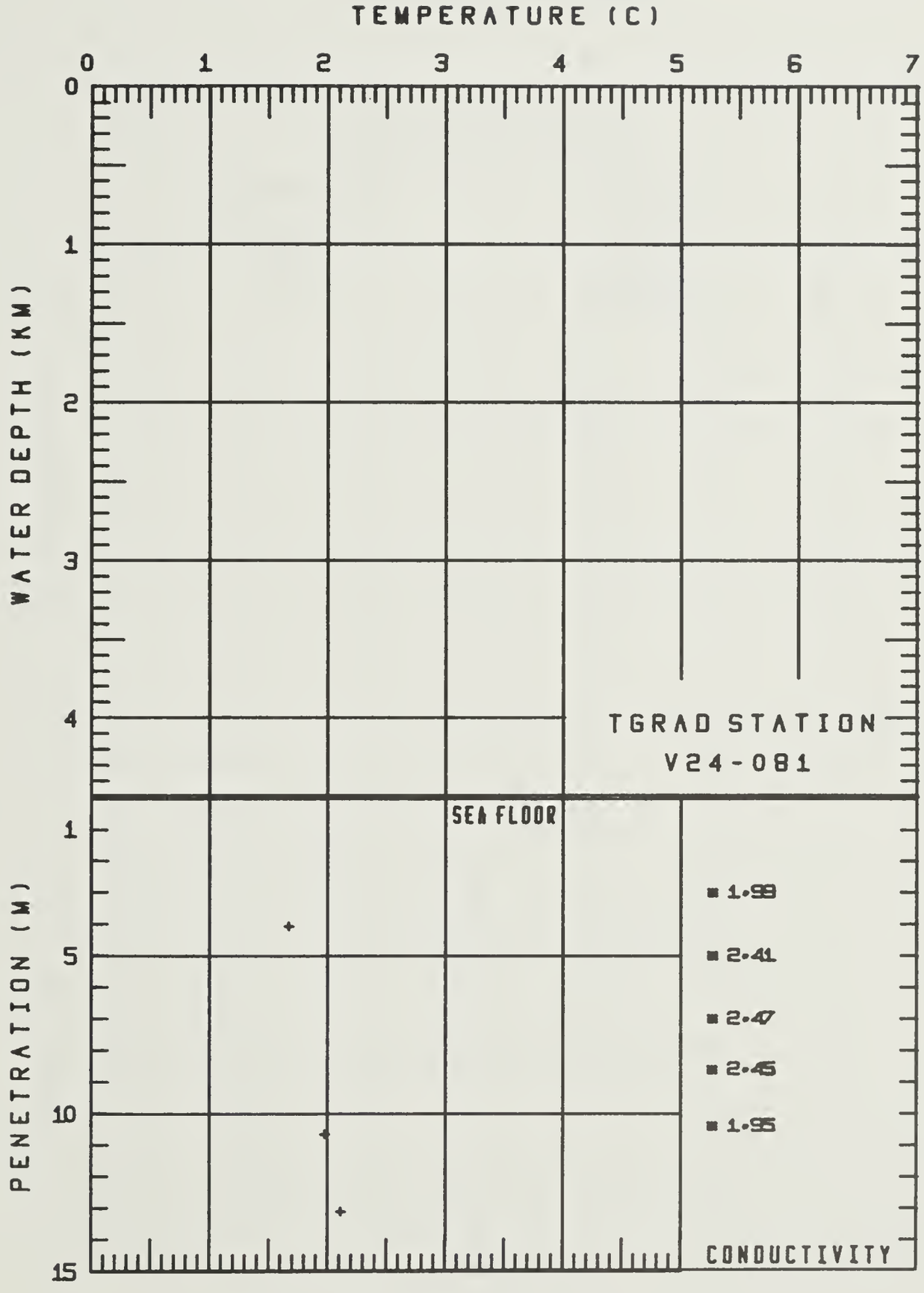
TGRAD STATIONV24-081

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.08	1.67
10.66	1.98
13.09	2.12

SEDIMENT CONDUCTIVITIES

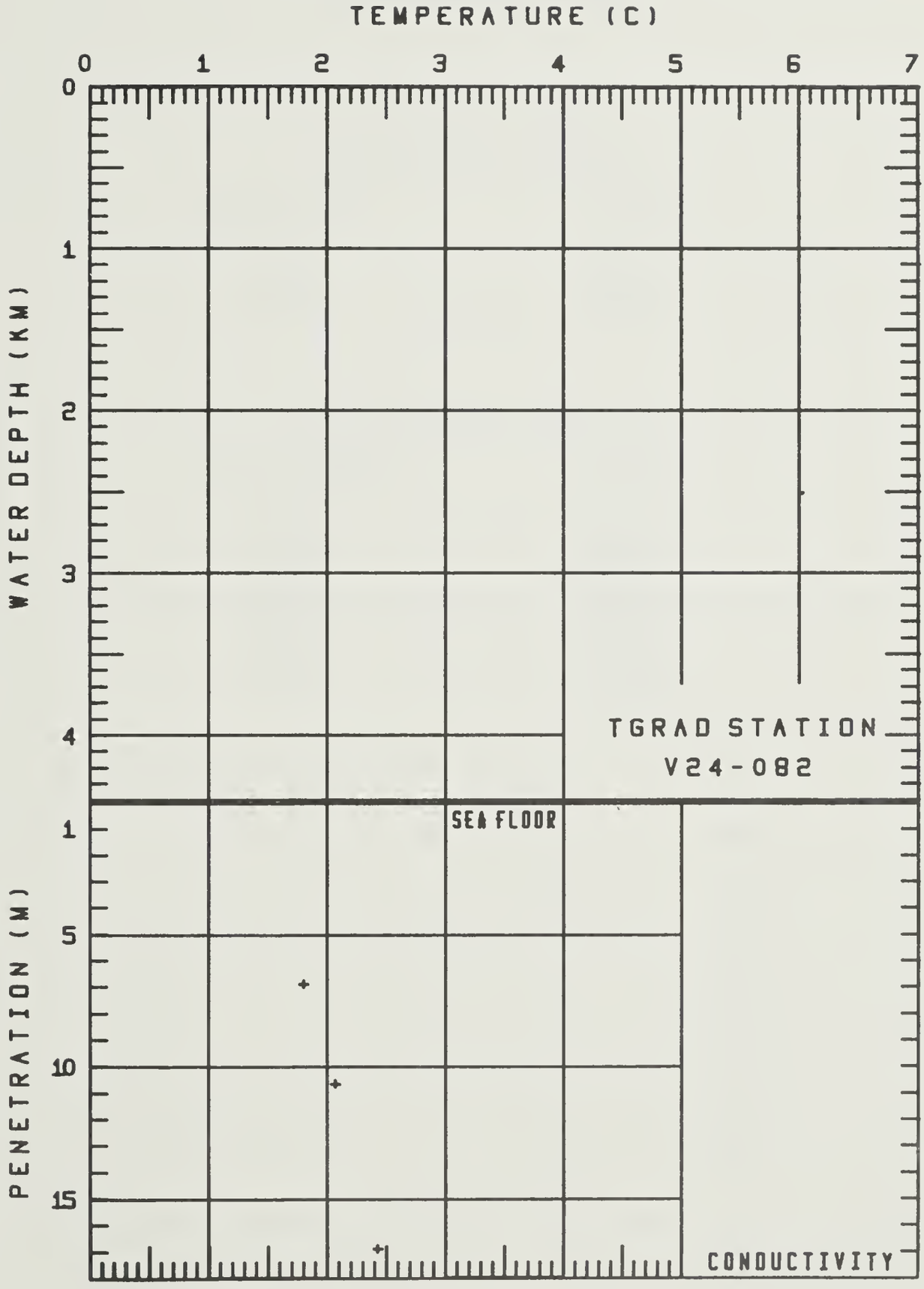
DEPTH	CONDUCTIVITY
3.00	1.99
5.00	2.41
7.00	2.47
8.60	2.45
10.40	1.95


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-081
SEA FLOOR
PENETRATION (M)
1
5
10
15
1.98
2.41
2.47
2.45
1.95
CONDUCTIVITY

TGRAD STATIONV24-082

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
6.88	1.80
10.64	2.07
16.89	2.43


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-082
SEA FLOOR
PENETRATION (M)
1
5
10
15
CONDUCTIVITY

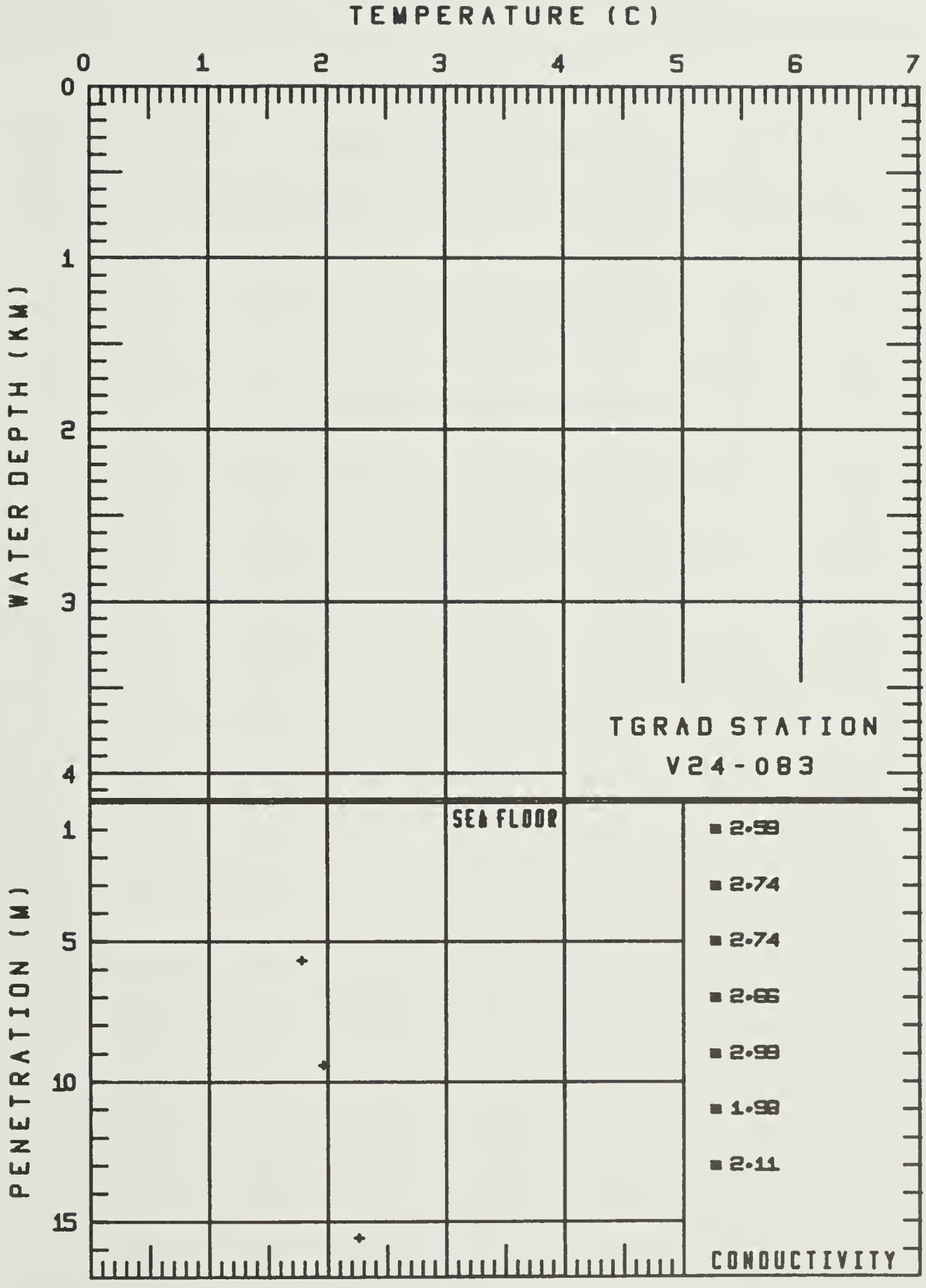
TGRAD STATIONV24-083

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
5.68	1.78
9.42	1.96
15.59	2.26

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.59
3.00	2.74
5.00	2.74
7.00	2.66
9.00	2.99
11.00	1.98
13.00	2.11


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-083
SEA FLOOR
PENETRATION (M)
1
5
10
15
2.58
2.74
2.74
2.86
2.98
1.98
2.11
CONDUCTIVITY

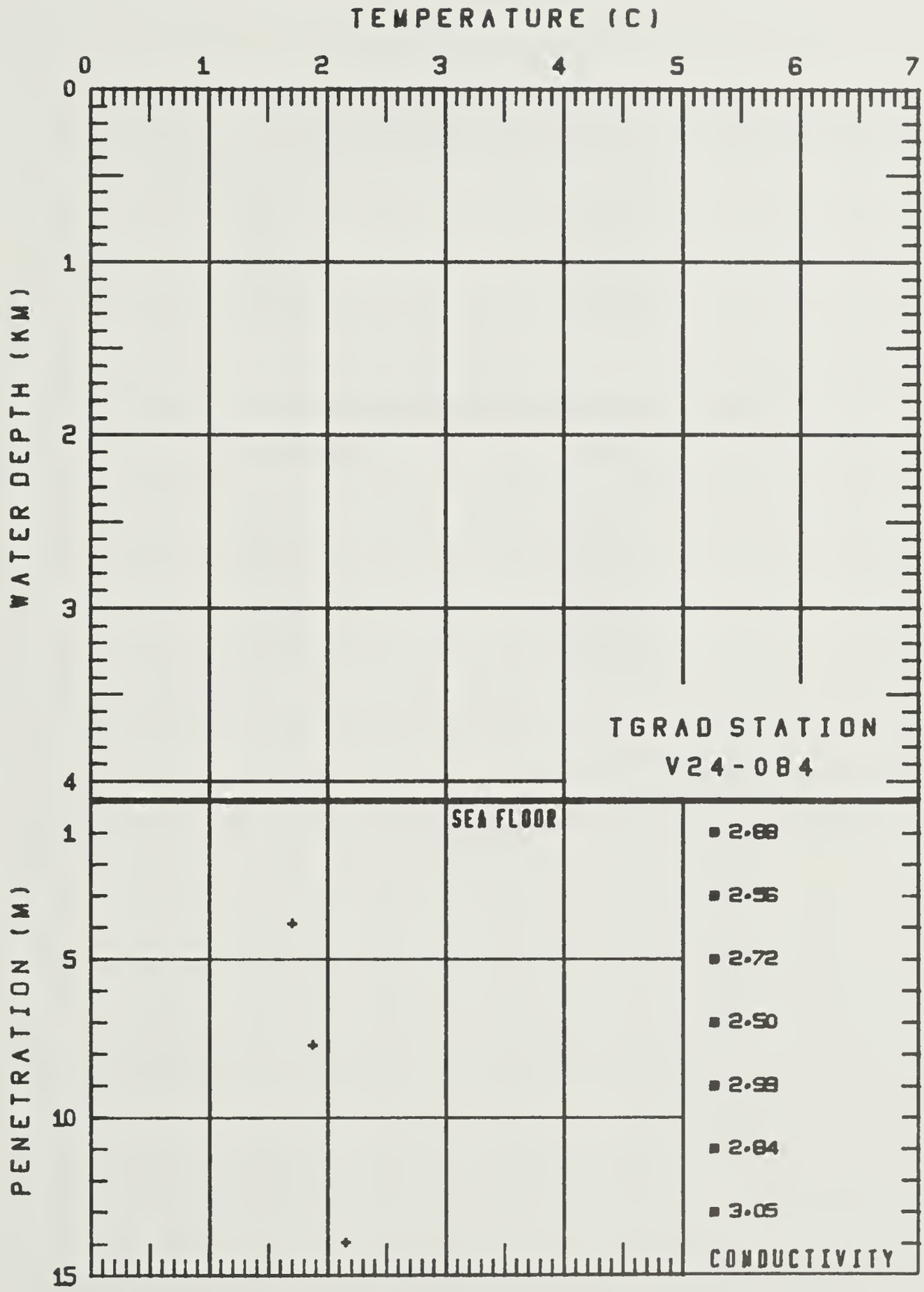
TGRAD STATIONV24-084

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.84	1.70
7.71	1.87
13.95	2.15

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.88
3.00	2.56
5.00	2.72
7.00	2.50
9.00	2.99
11.00	2.84
13.00	3.05


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-084
SEA FLOOR
PENETRATION (M)
1
5
10
15
2.88
2.56
2.72
2.50
2.98
2.84
3.05
CONDUCTIVITY

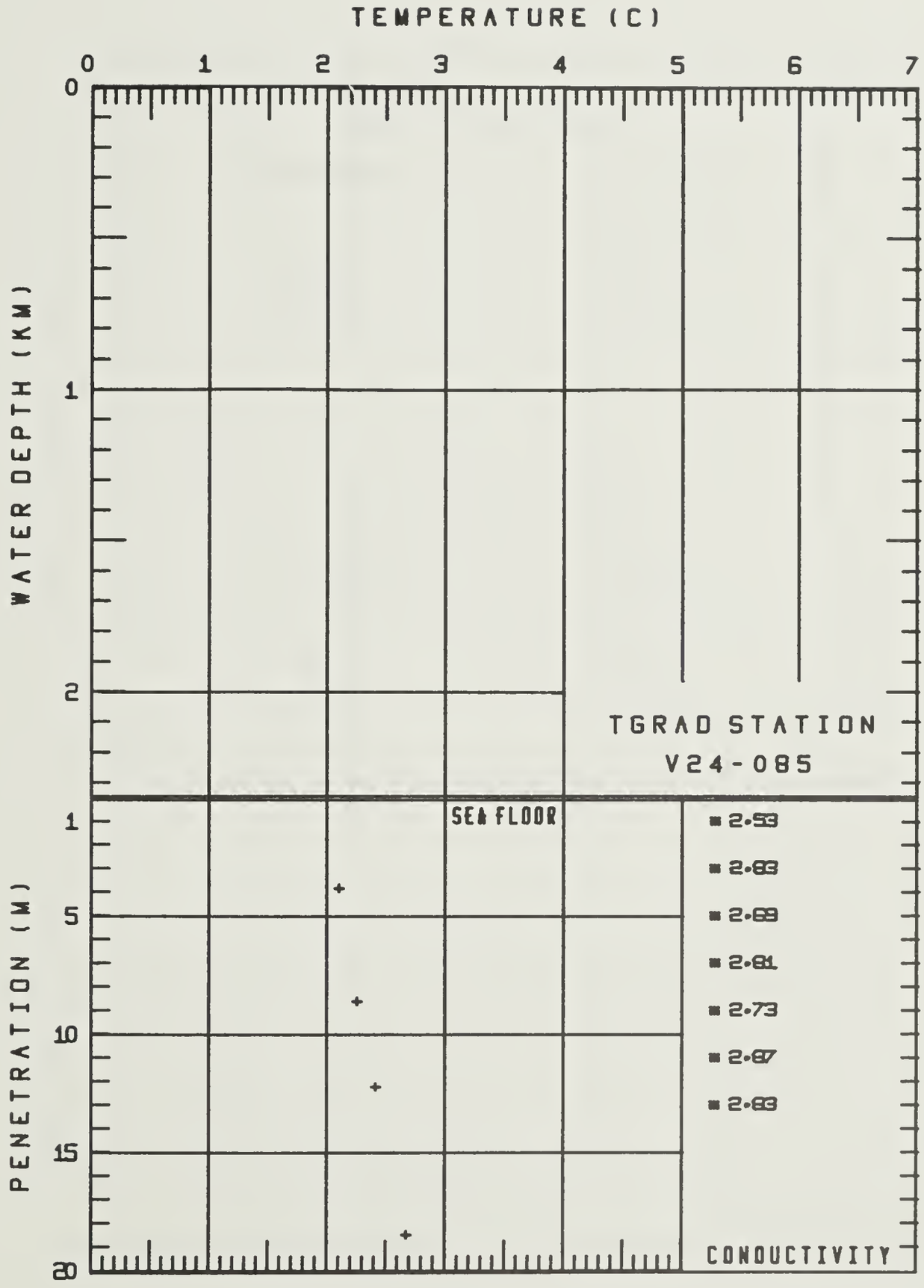
TGRAD STATIONV24-085

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.84	2.09
8.64	2.24
12.25	2.40
18.49	2.66

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.53
3.00	2.83
5.00	2.69
7.00	2.81
9.00	2.73
11.00	2.87
13.00	2.83


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-085
PENETRATION (M)
1
5
10
15
20
SEA FLOOR
= 2.93
= 2.83
= 2.88
= 2.81
= 2.73
= 2.87
= 2.83
CONDUCTIVITY

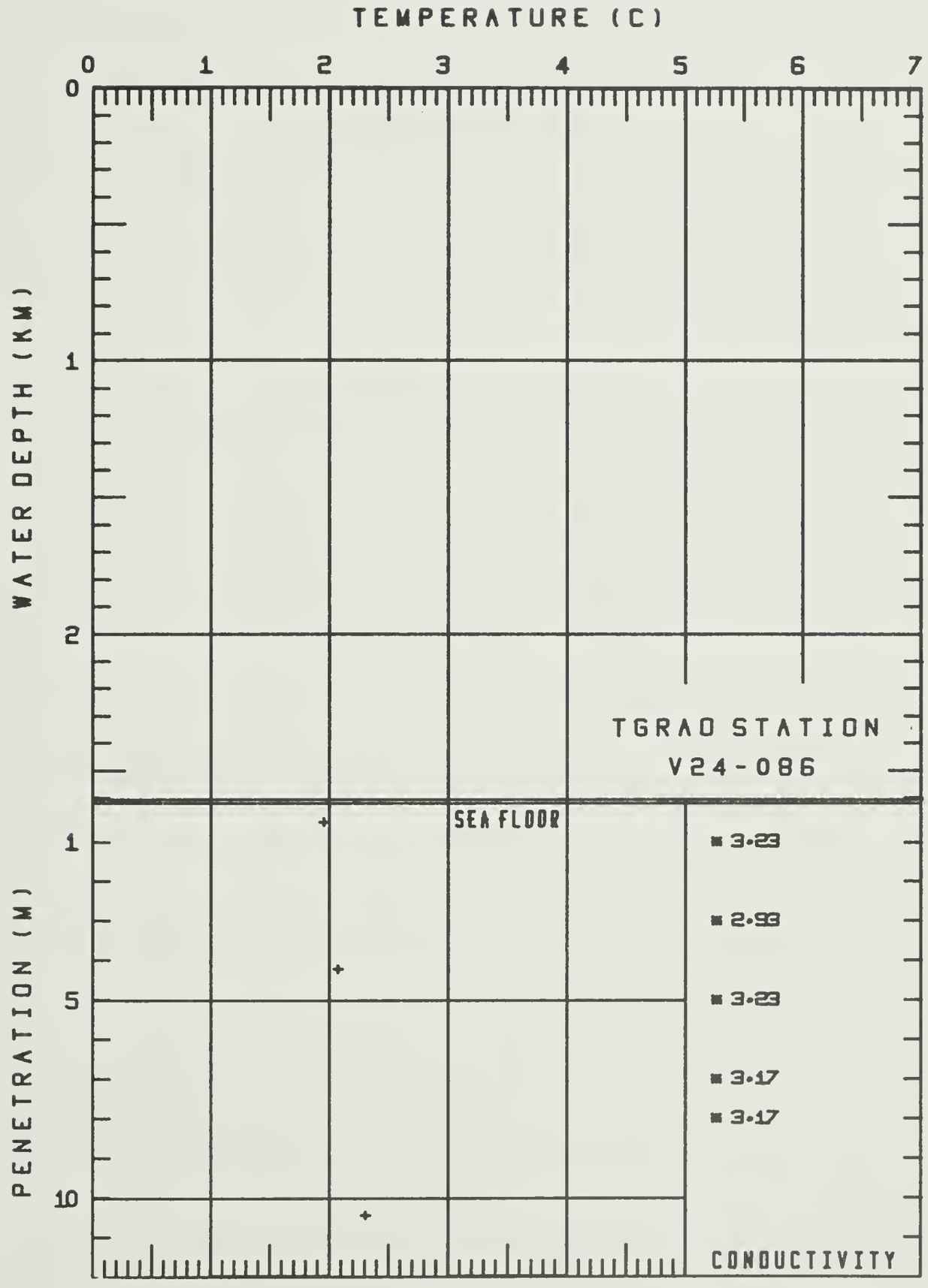
TGRAD STATION V24-086

SEDIMENT TEMPERATURES

DEPTH METERS	TEMPERATURE
0.50	1.956
4.21	2.080
10.43	2.310

SEDIMENT CONDUCTIVIES

DEPTH METERS	CONDUCTIVITY CGS
1.00	3.23
3.00	2.93
5.00	3.23
7.00	3.17
8.00	3.17

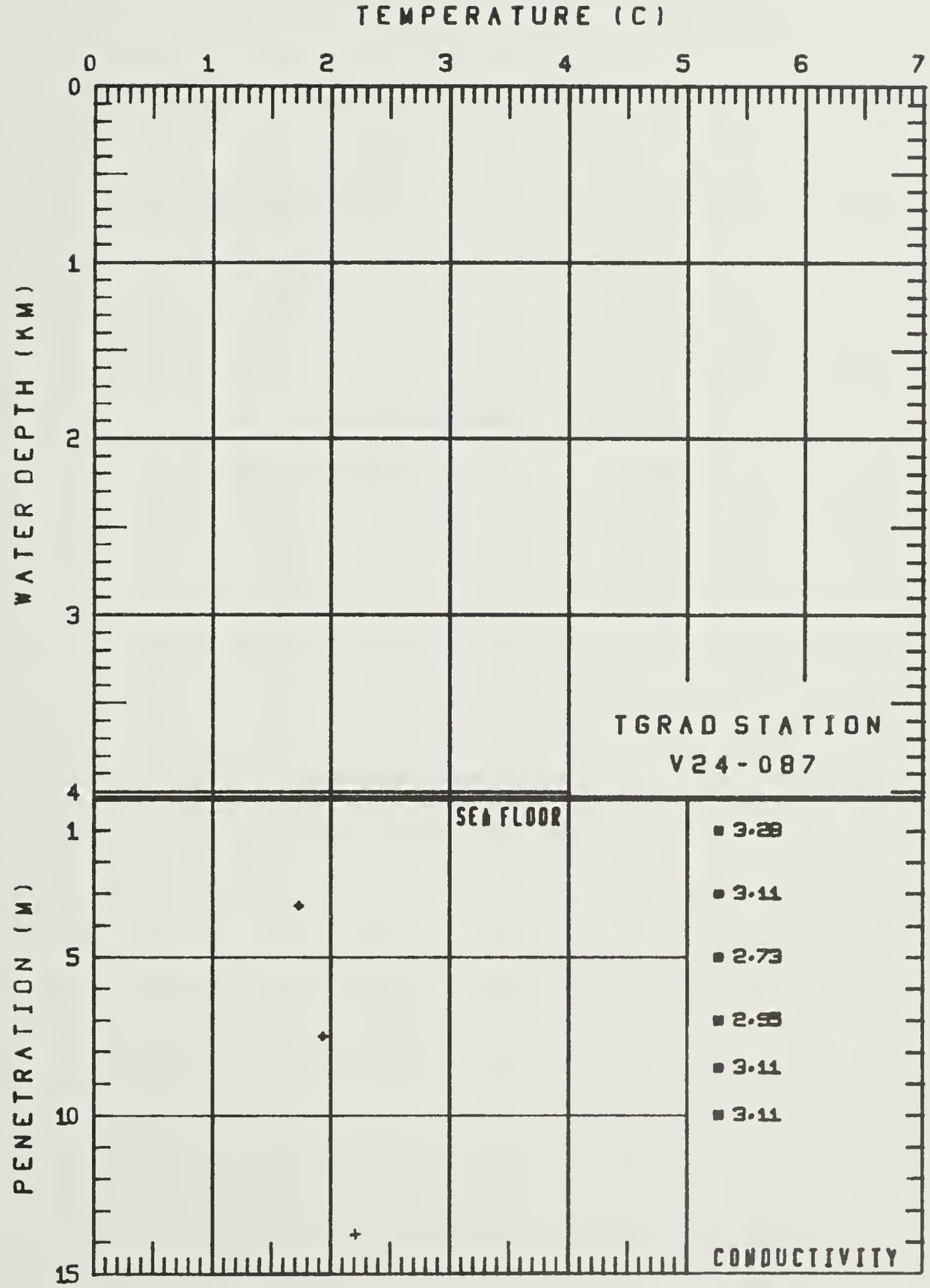

TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-086
SEA FLOOR
PENETRATION (M)
1
5
10
■ 3.23
■ 2.93
■ 3.23
■ 3.17
■ 3.17
CONDUCTIVITY

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.37	1.73
7.49	1.93
13.76	2.22

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	3.28
3.00	3.11
5.00	2.73
7.00	2.95
8.50	3.11
10.00	3.11


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-087
SEA FLOOR
PENETRATION (M)
1
5
10
15
3.28
3.11
2.73
2.95
3.11
3.11
CONDUCTIVITY

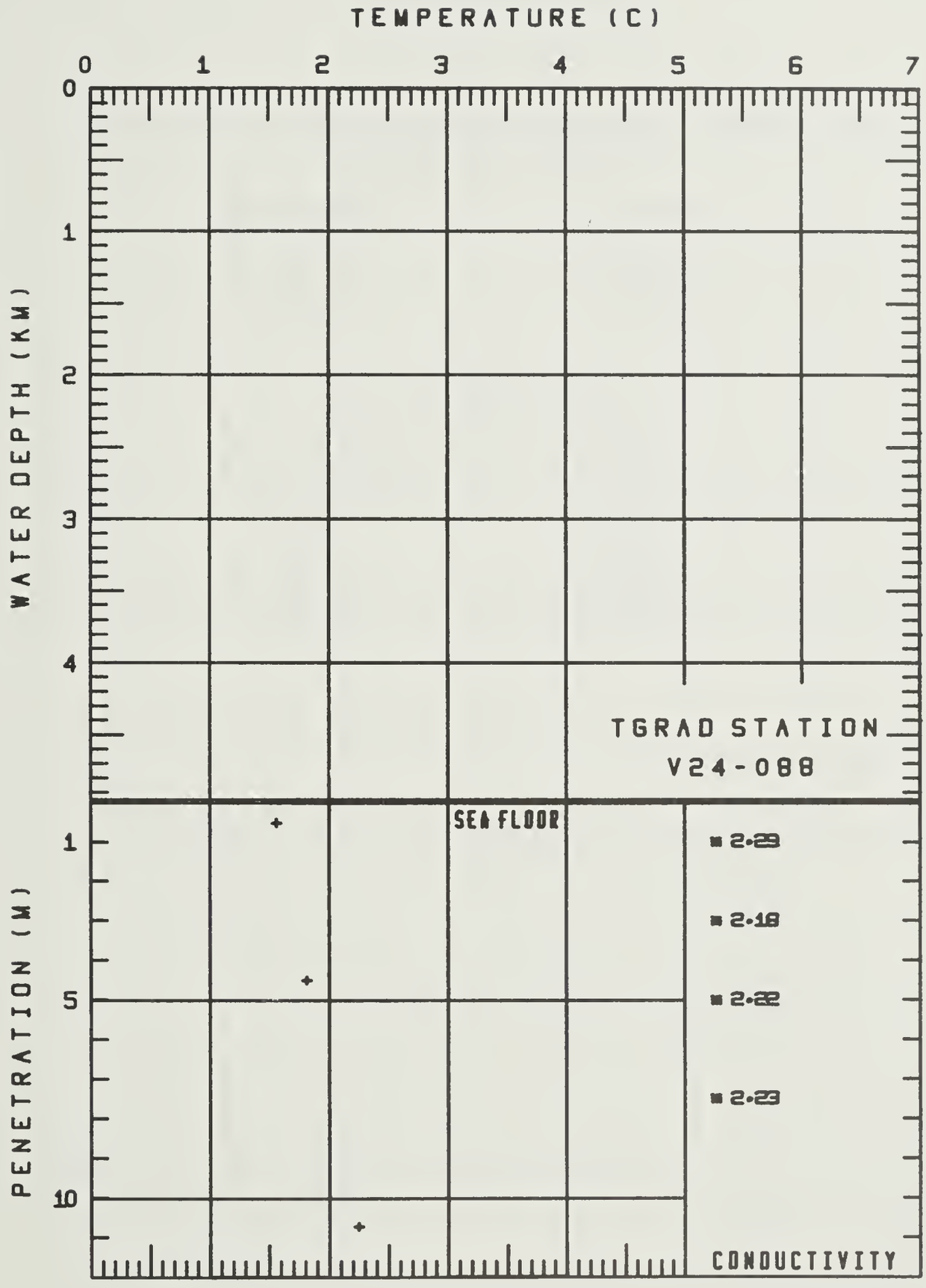
TGRAD STATIONV24-088

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.51	1.56
4.50	1.82
10.72	2.25

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.29
3.00	2.18
5.00	2.22
7.50	2.23


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-088
SEA FLOOR
PENETRATION (M)
1
5
10
= 2.29
= 2.18
= 2.22
= 2.23
CONDUCTIVITY

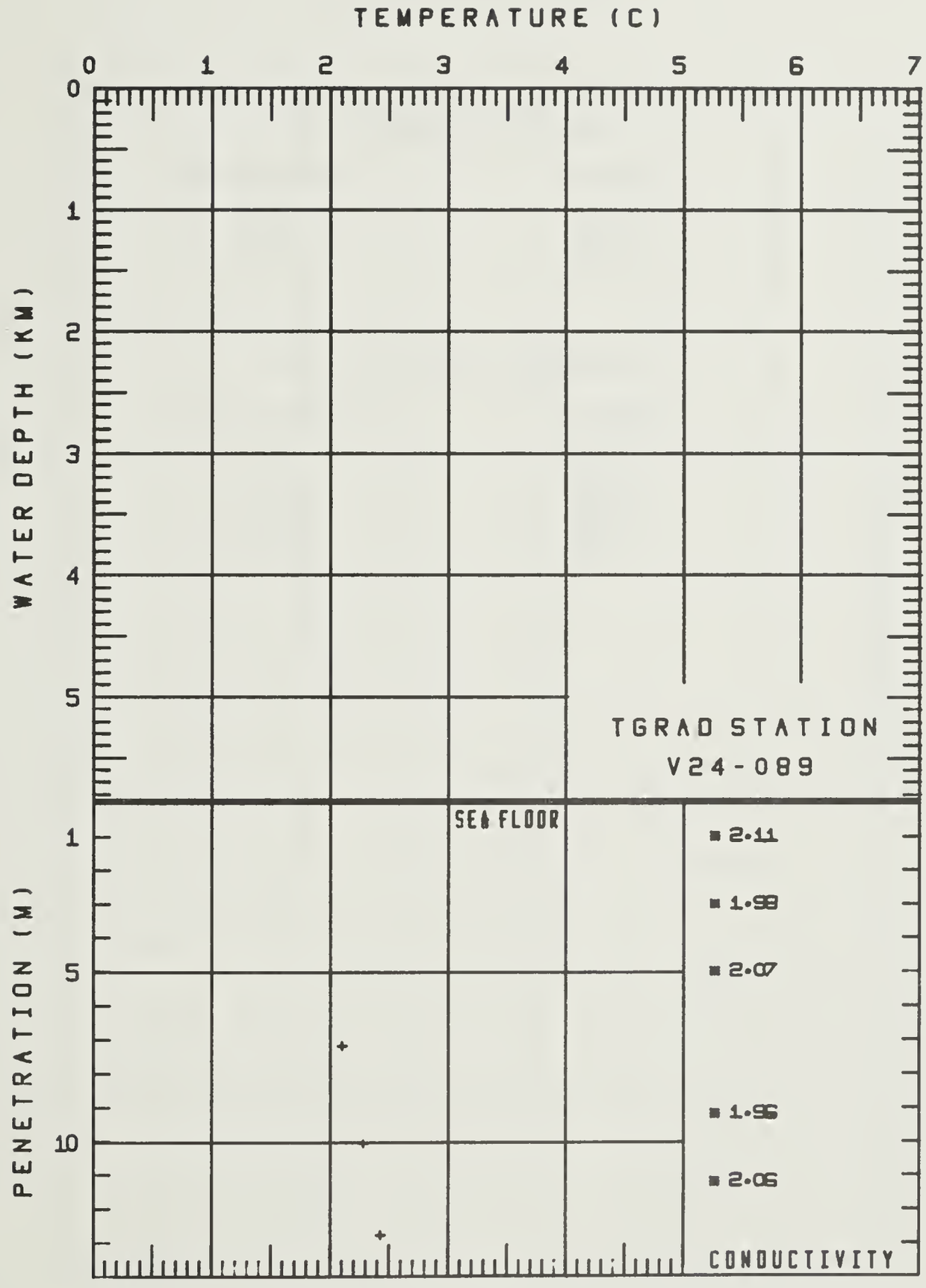
TGRAD STATIONV24-089

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
7.18	2.10
10.05	2.28
12.77	2.43

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.11
3.00	1.98
5.00	2.07
9.20	1.96
11.20	2.06


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-089
2.11
1.98
2.07
1.96
2.06
CONDUCTIVITY

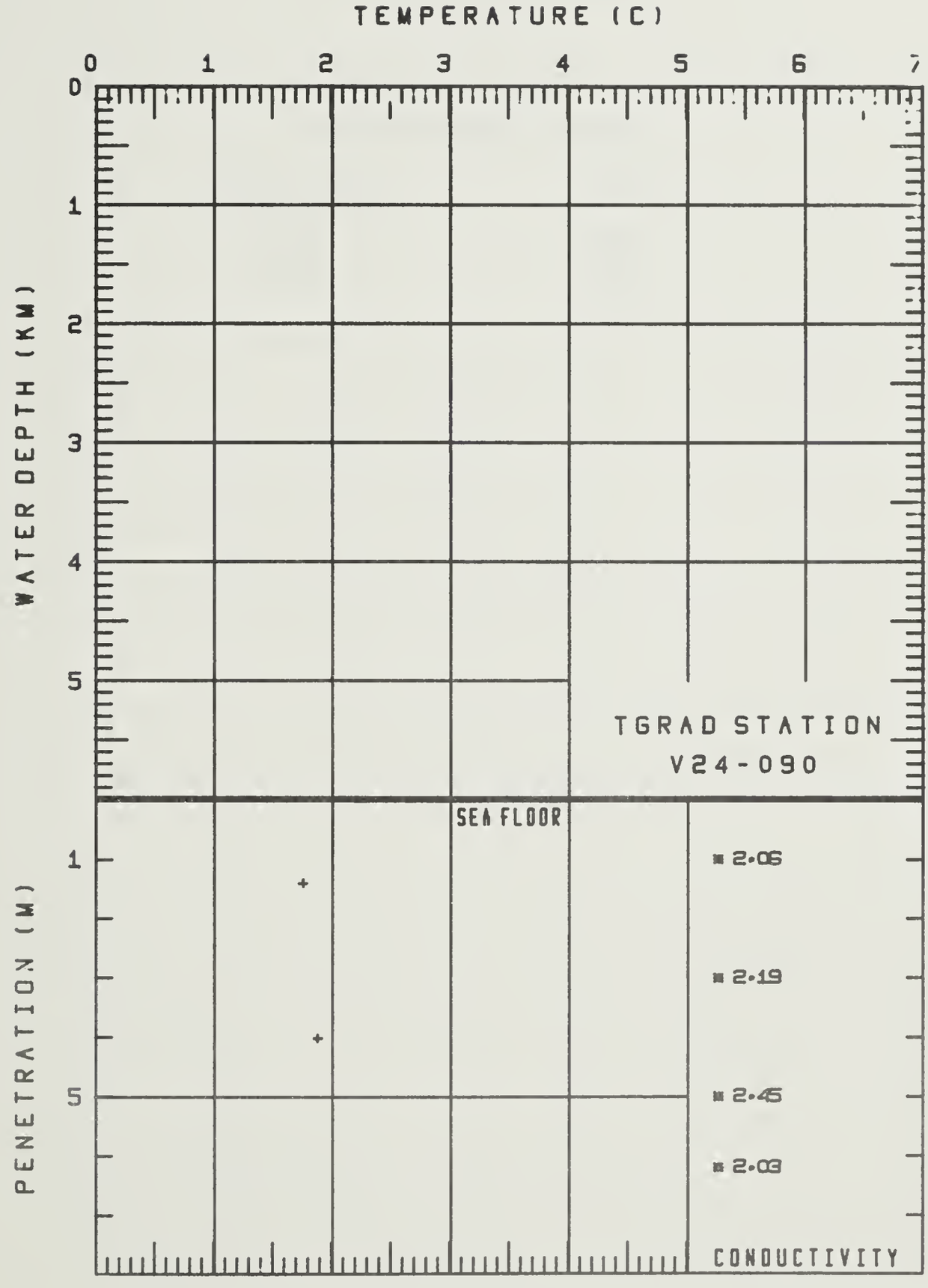
TGRAD STATIONV24-090

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.40	1.75
4.01	1.88

SEDIMENT CONDUCTIVITIES

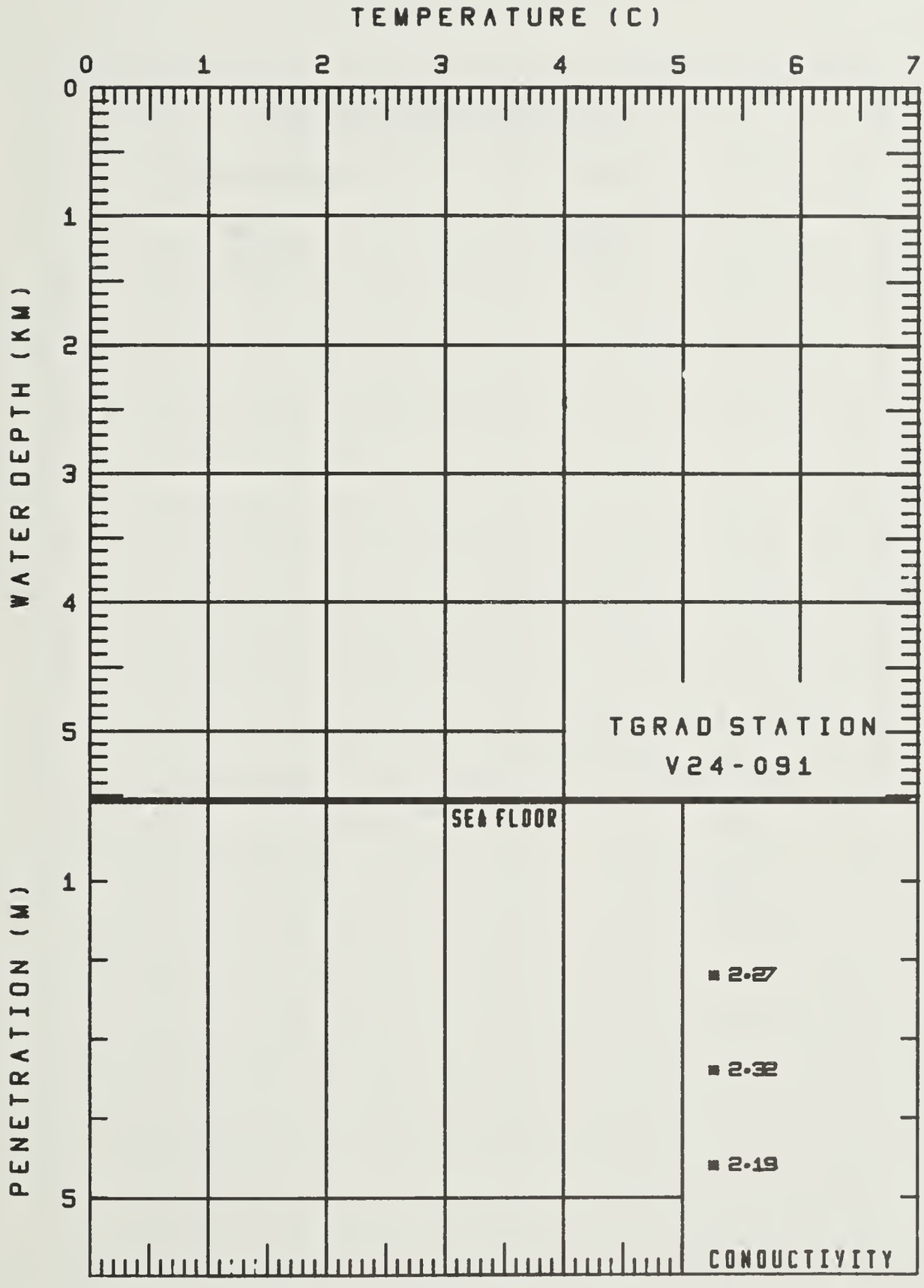
DEPTH	CONDUCTIVITY
1.00	2.06
3.00	2.19
5.00	2.45
6.20	2.03


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-090
SEA FLOOR
= 2.06
= 2.19
= 2.45
= 2.03
CONDUCTIVITY

TGRAD STATIONV24-091

SEDIMENT CONDUCTIVITIES

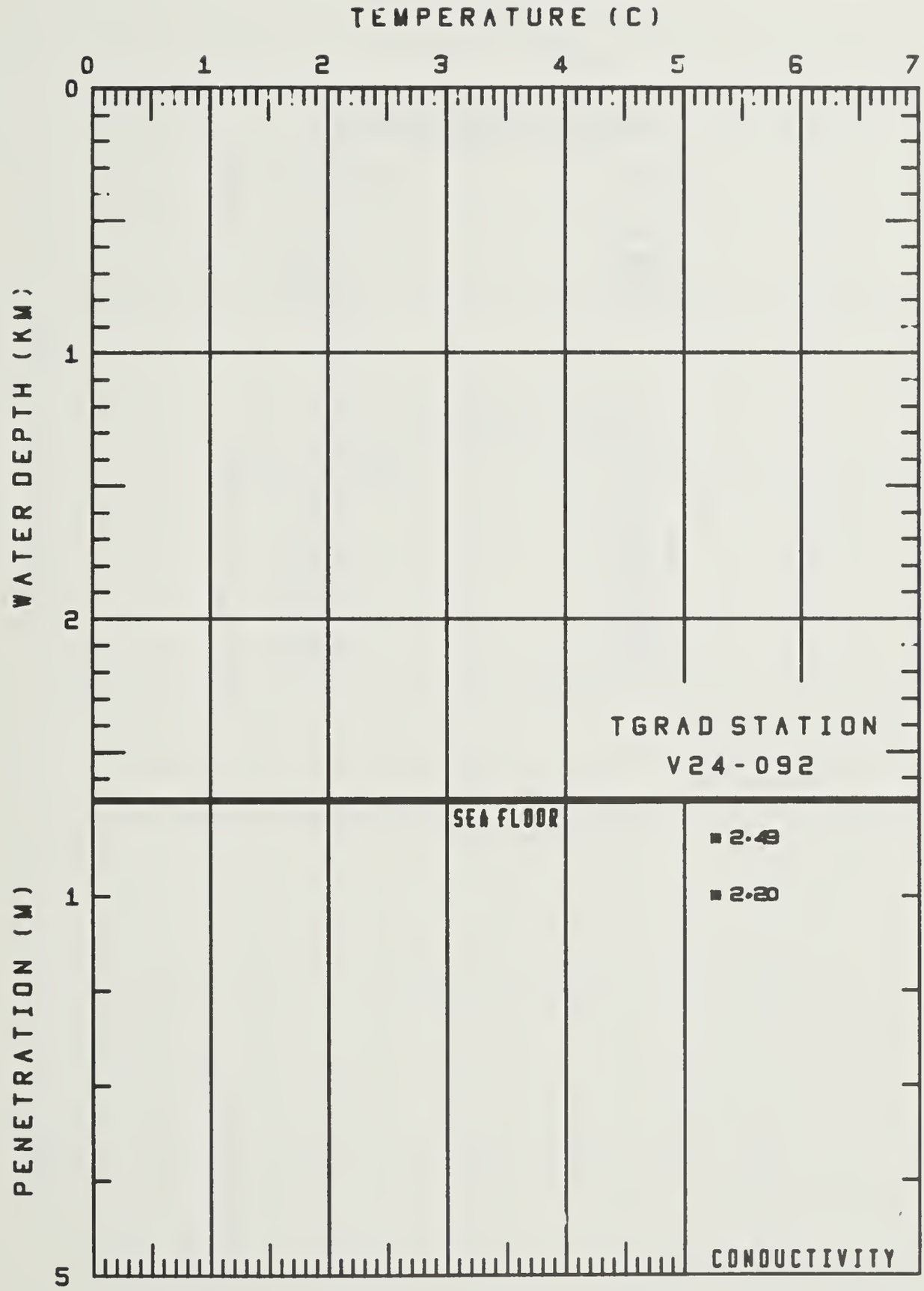
DEPTH	CONDUCTIVITY
2.20	2.27
3.40	2.32
4.60	2.19


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-091
SEA FLOOR
PENETRATION (M)
1
5
■ 2.27
■ 2.32
■ 2.19
CONDUCTIVITY

TGRAD STATIONV24-092

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.40	2.49
1.00	2.20


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-092
SEA FLOOR
PENETRATION (M)
1
5
■ 2.48
■ 2.20
CONDUCTIVITY

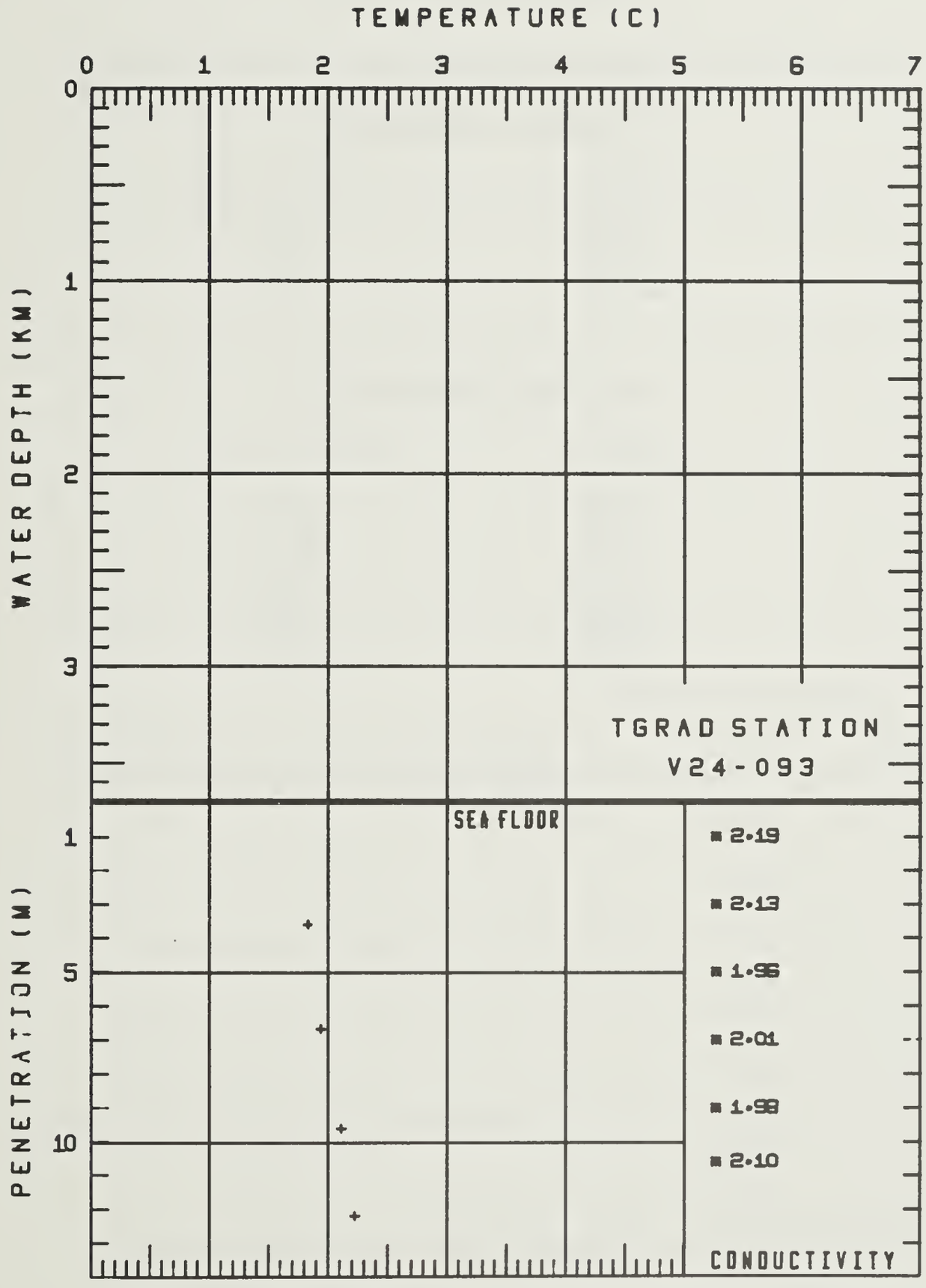
TGRAD STATIONV24-093

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.60	1.82
6.68	1.94
9.62	2.11
12.19	2.22

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.19
3.00	2.13
5.00	1.96
7.00	2.01
9.00	1.98
10.60	2.10


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-093
PENETRATION (M)
1
5
10
SEA FLOOR
= 2.19
= 2.13
= 1.96
= 2.01
= 1.98
= 2.10
CONDUCTIVITY

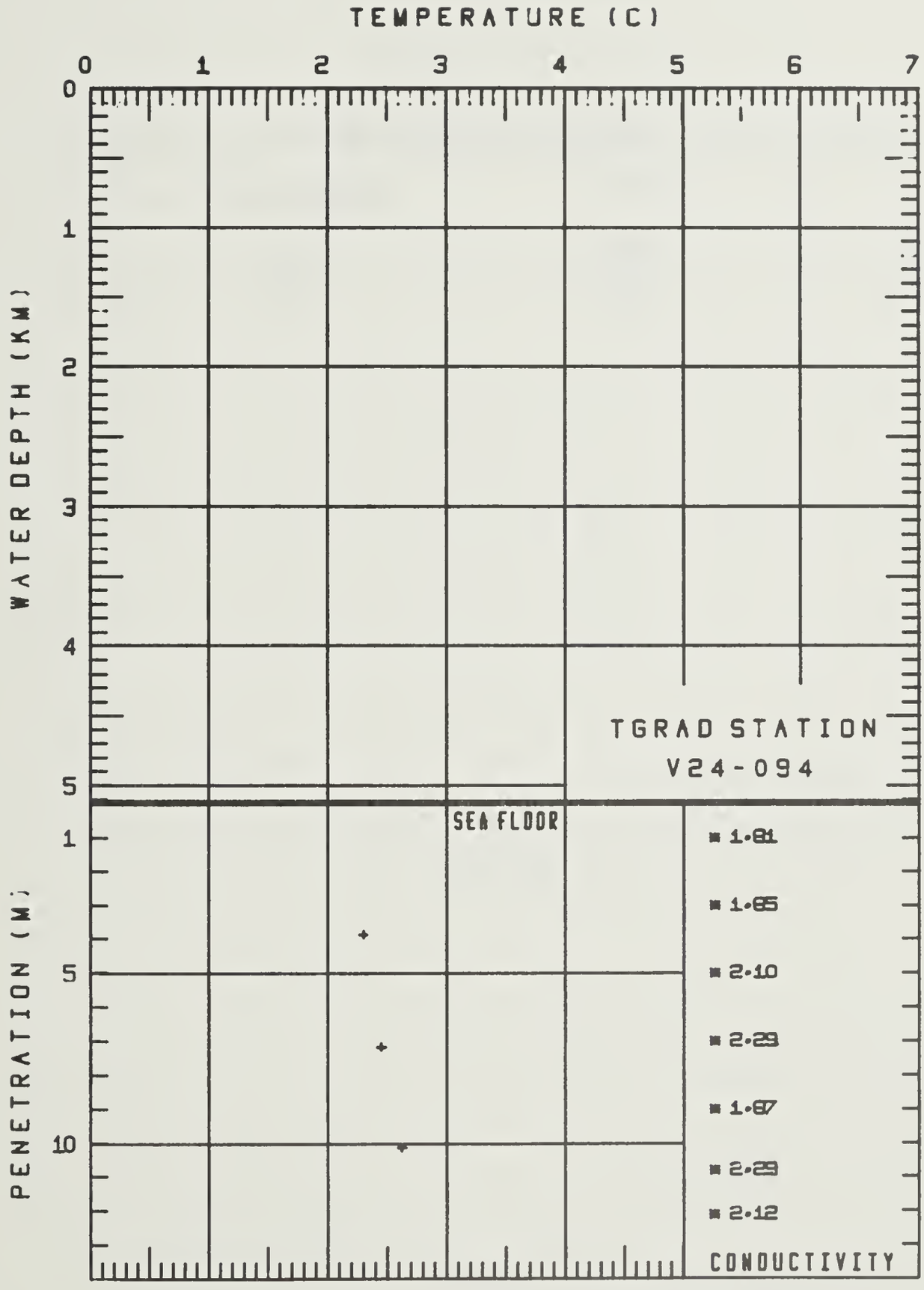
TGRAD STATIONV24-094

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.86	2.29
7.16	2.44
10.13	2.62

SEDIMENT CONDUCTIVITIES

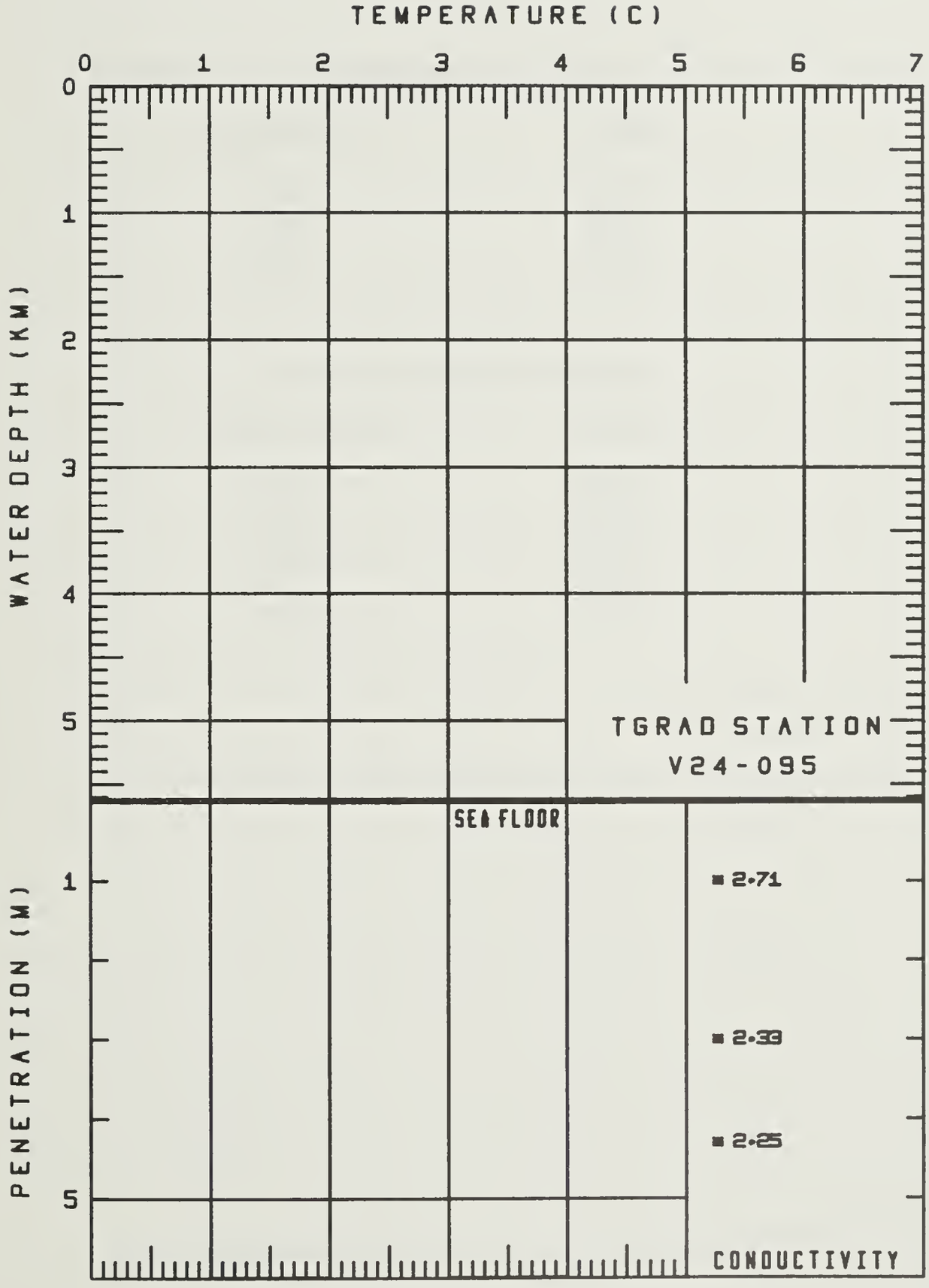
DEPTH	CONDUCTIVITY
1.00	1.81
3.00	1.85
5.00	2.10
7.00	2.29
9.00	1.87
10.80	2.29
12.10	2.12


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-094
SEA FLOOR
PENETRATION (M)
1
5
10
1.81
1.85
2.10
2.23
1.87
2.23
2.12
CONDUCTIVITY

TGRAD STATIONV24-095

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.71
3.00	2.33
4.30	2.25

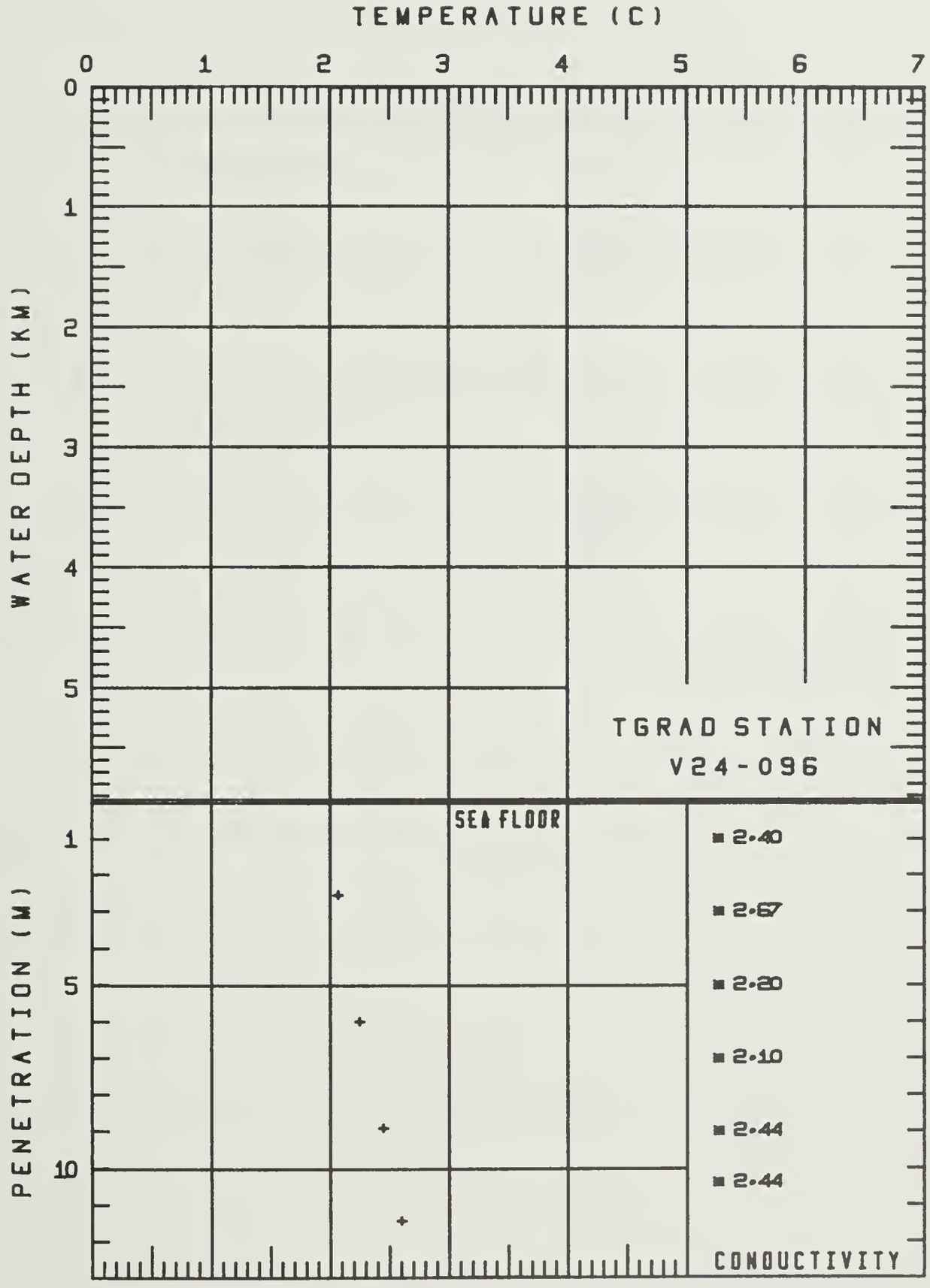

TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-095
SEA FLOOR
PENETRATION (M)
1
5
= 2.71
= 2.33
= 2.25
CONDUCTIVITY

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.53	2.07
5.98	2.24
8.90	2.45
11.41	2.60

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.40
3.00	2.67
5.00	2.20
7.00	2.10
9.00	2.44
10.40	2.44


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-096
SEA FLOOR
PENETRATION (M)
1
5
10
■ 2.40
■ 2.67
■ 2.20
■ 2.10
■ 2.44
■ 2.44
CONDUCTIVITY

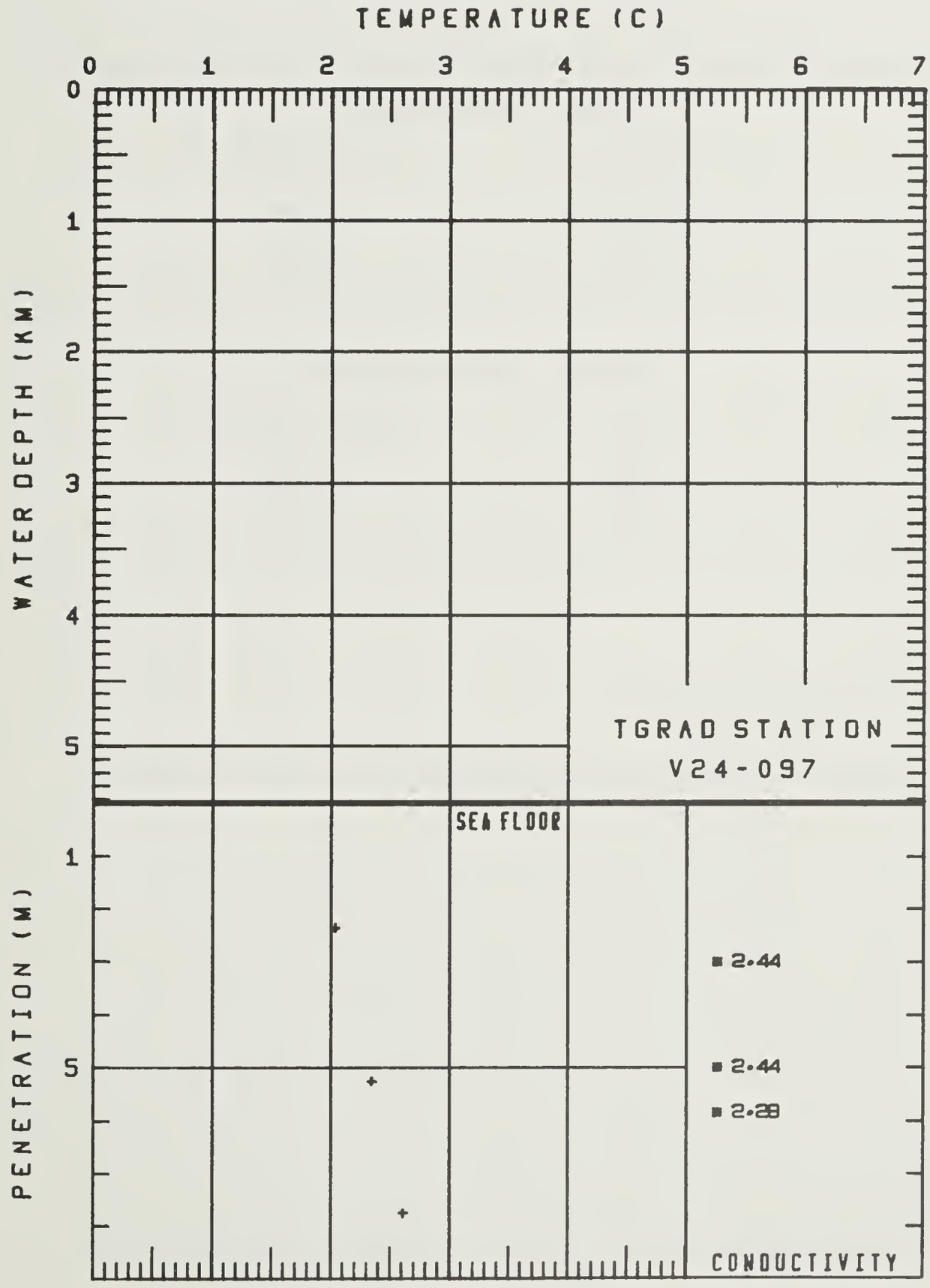
TGRAD STATIONV24-097

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.35	2.04
5.25	2.34
7.76	2.61

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.44
5.00	2.44
5.85	2.28


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-097
SEA FLOOR
PENETRATION (M)
1
5
■ 2.44
■ 2.44
■ 2.28
CONDUCTIVITY

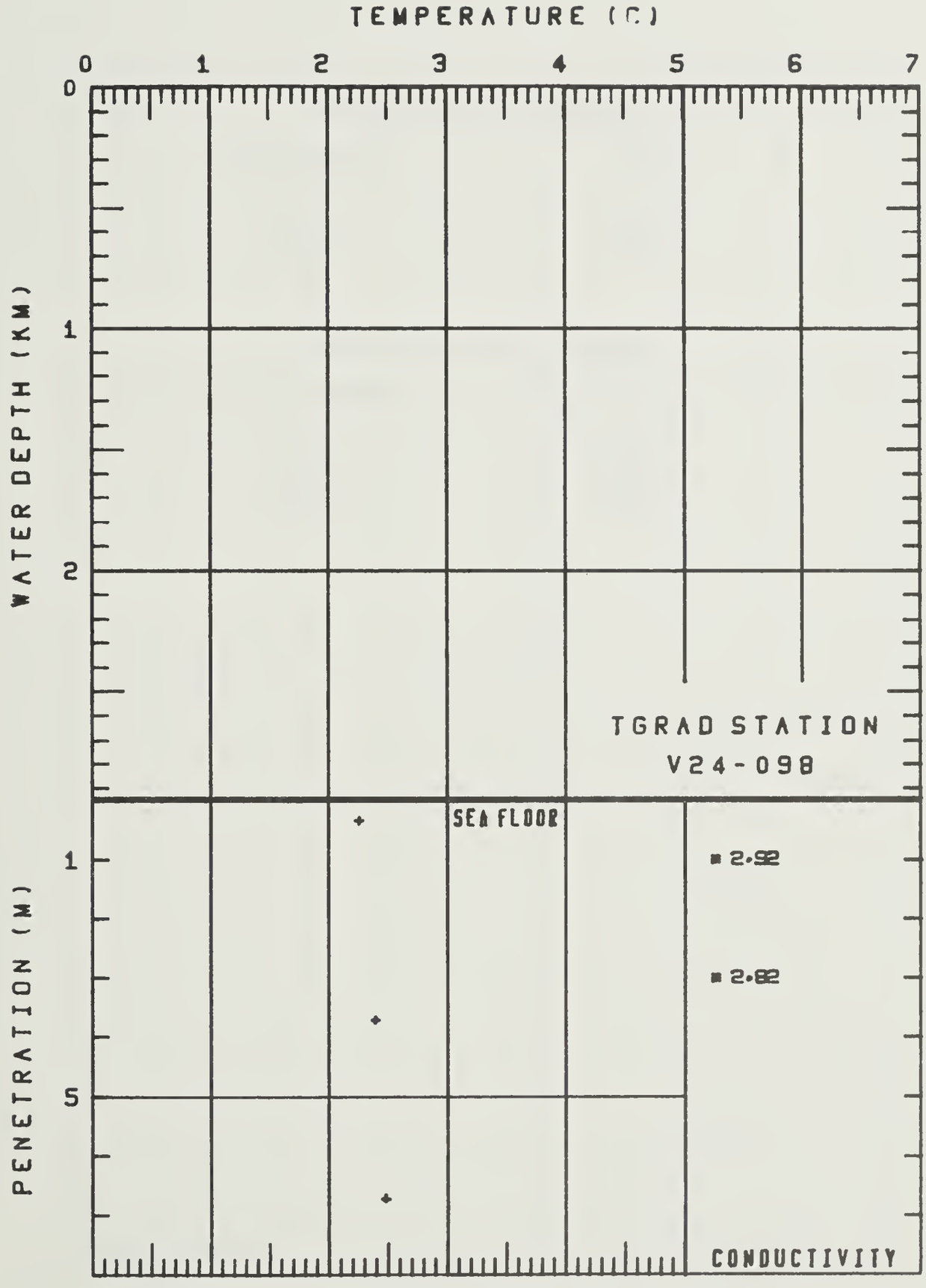
TGRAD STATIONV24-098

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.35	2.25
3.71	2.40
6.71	2.48

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.92
3.00	2.82


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-098
SEA FLOOR
PENETRATION (M)
1
5
■ 2.92
■ 2.82
CONDUCTIVITY

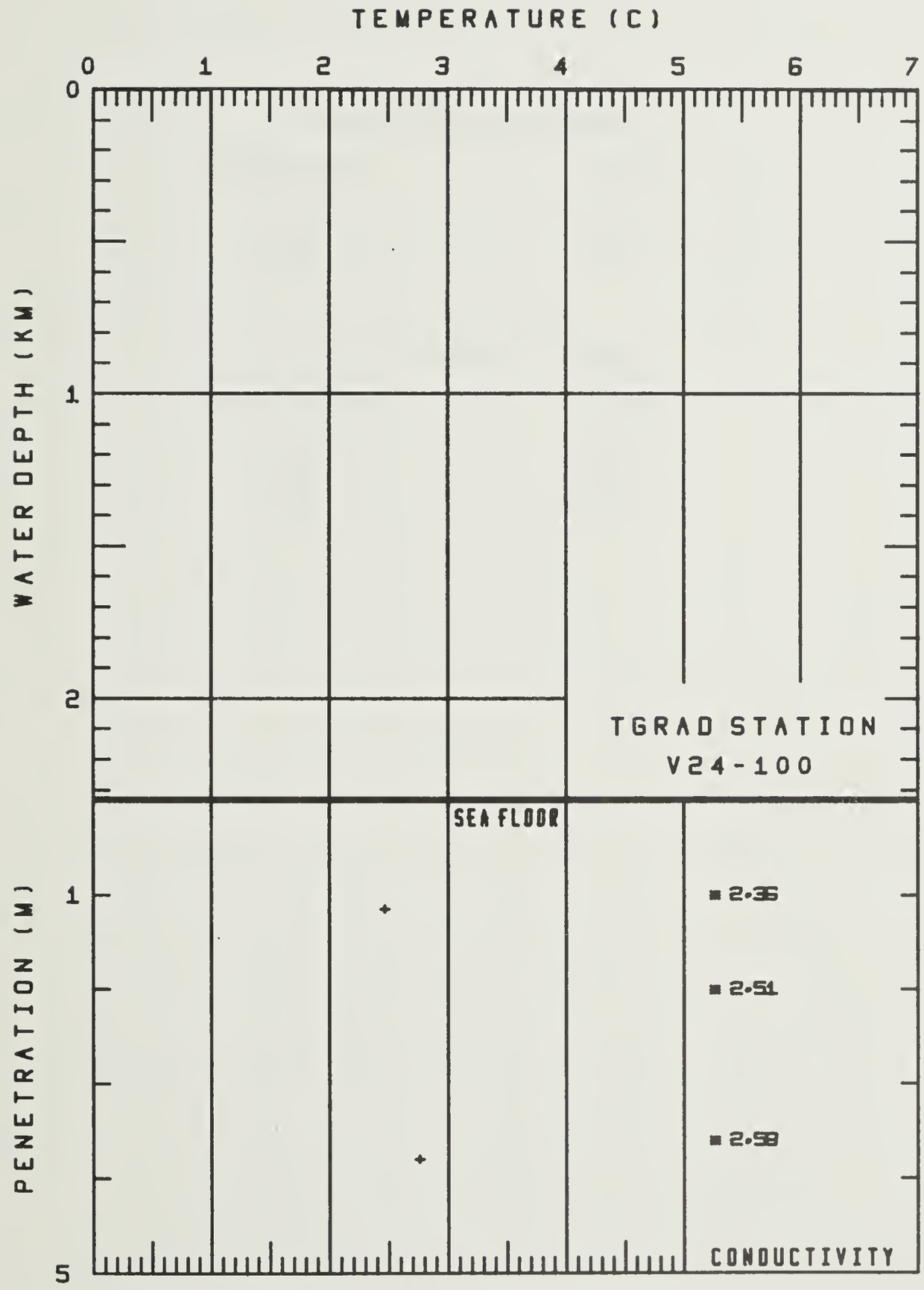
TGRAD STATIONV24-100

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.15	2.47
3.79	2.76

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.36
2.00	2.51
3.60	2.58


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-100
SEA FLOOR
PENETRATION (M)
1
5
= 2.36
= 2.51
= 2.58
CONDUCTIVITY

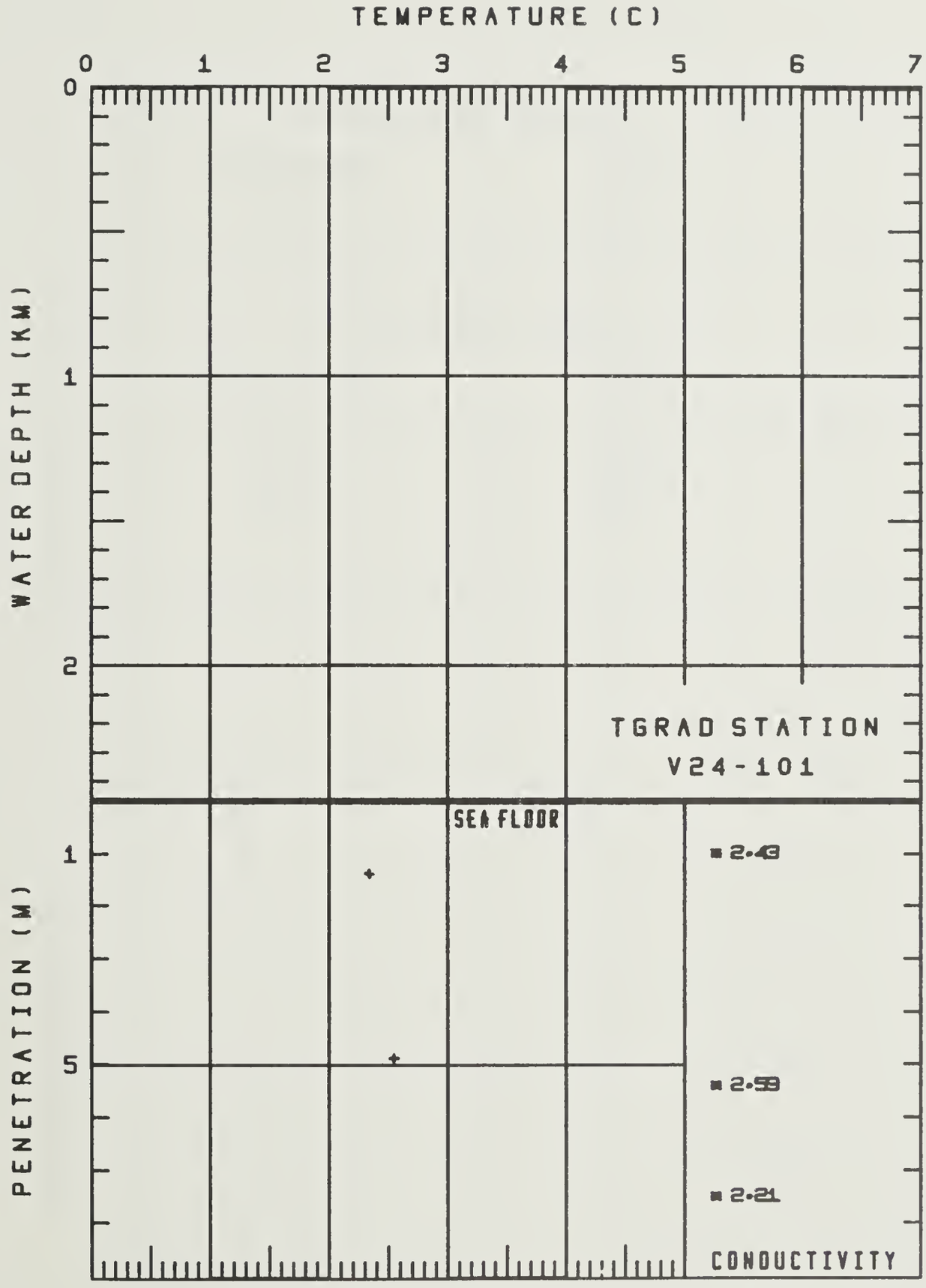
TGRAD STATIONV24-101

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.42	2.38
4.88	2.54

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.43
5.40	2.59
7.50	2.21


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-101
SEA FLOOR
PENETRATION (M)
1
5
■ 2.43
■ 2.58
■ 2.21
CONDUCTIVITY

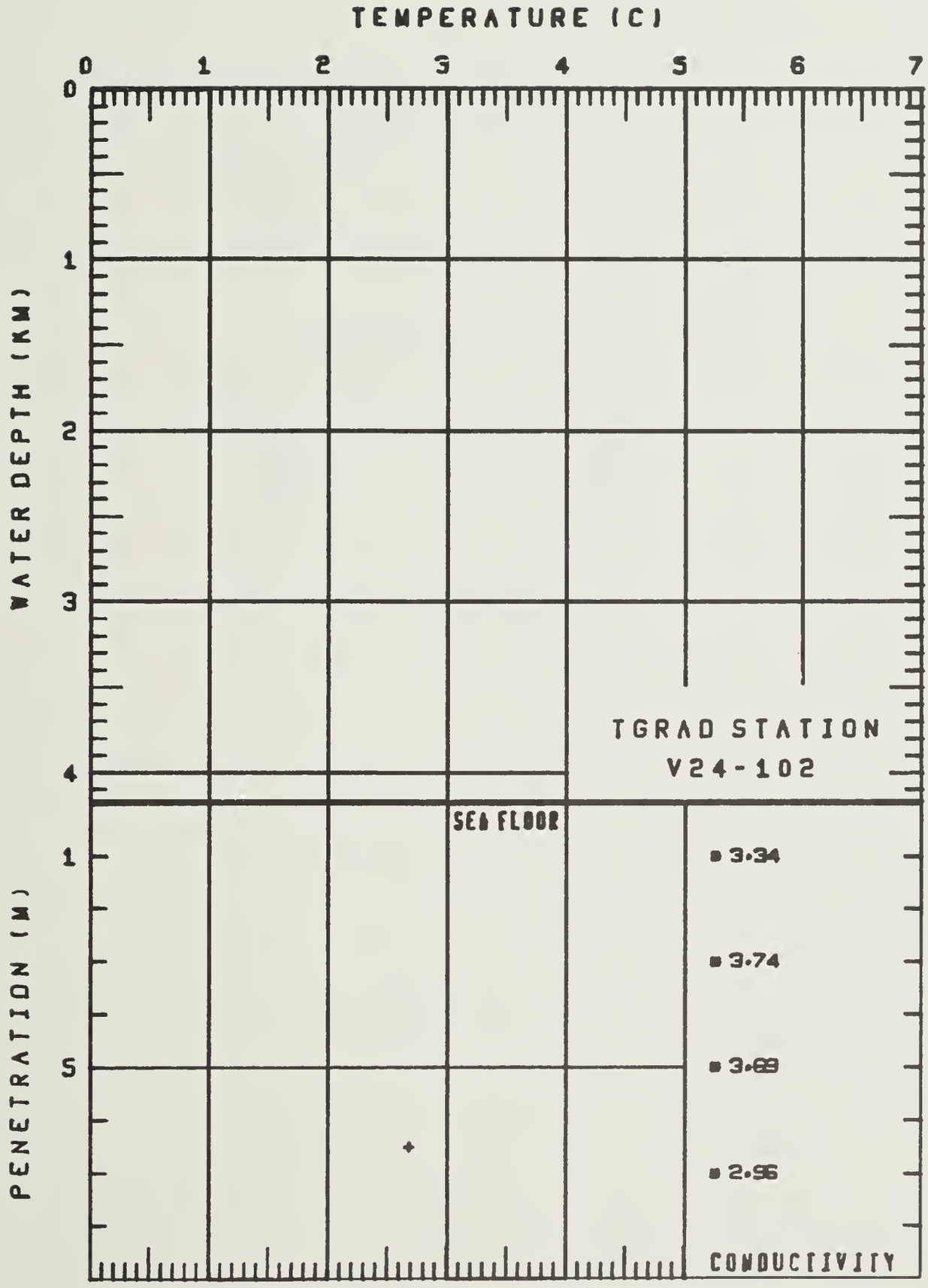
TGRAD STATIONV24-102

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
6.50	2.69

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	3.34
3.00	3.74
5.00	3.69
7.00	2.96

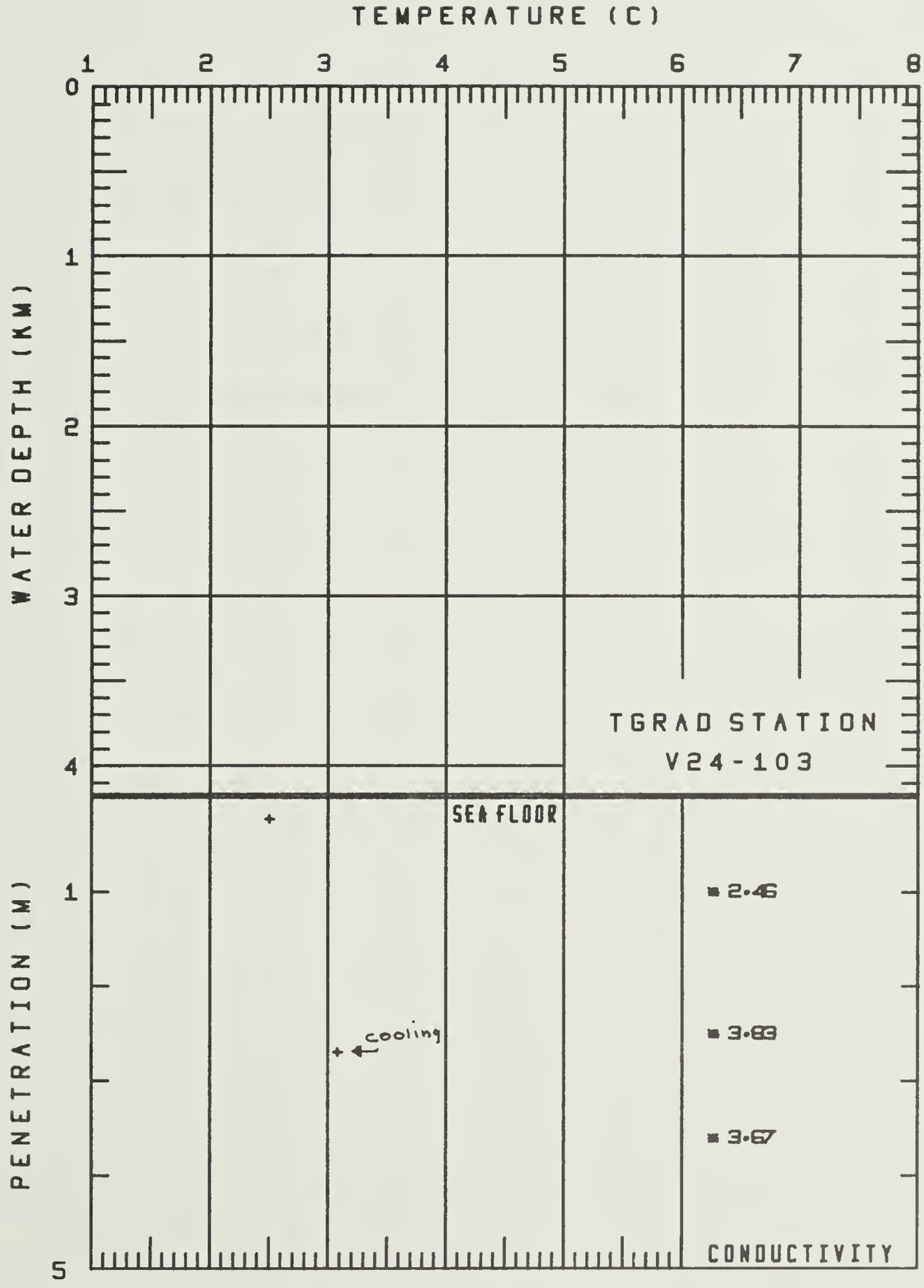

TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-102
SEA FLOOR
PENETRATION (M)
1
5
3.34
3.74
3.88
2.96
CONDUCTIVITY

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.23	2.50
2.69	3.08

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.46
2.50	3.83
3.60	3.67


TEMPERATURE (C)
1
2
3
4
5
6
7
8
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-103
SEA FLOOR
PENETRATION (M)
1
5
+
+
cooling
= 2.46
= 3.83
= 3.67
CONDUCTIVITY

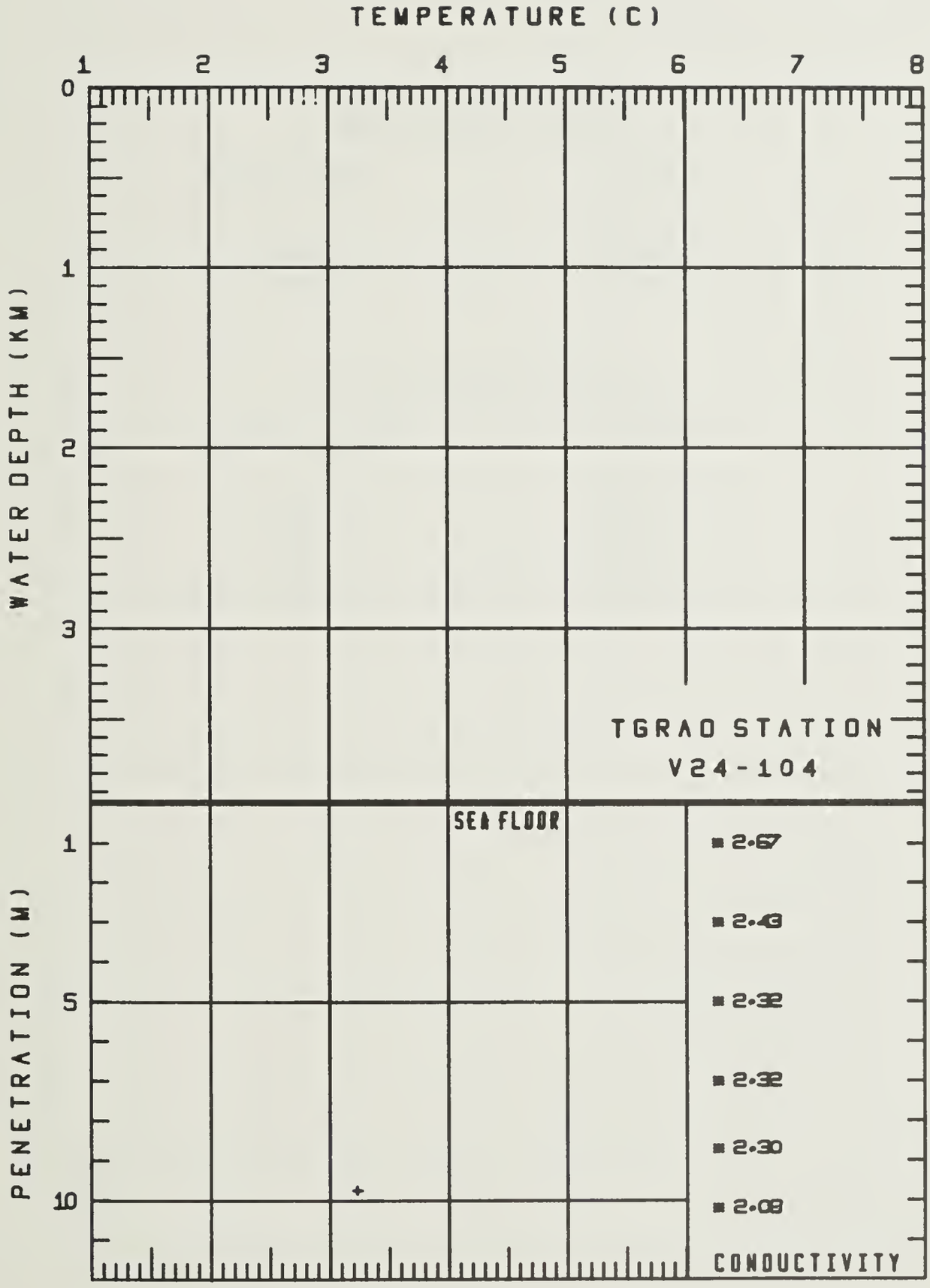
TGRAD STATIONV24-104

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
9.75	3.23

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.67
3.00	2.43
5.00	2.32
7.00	2.32
8.70	2.30
10.20	2.08


TEMPERATURE (C)
1
2
3
4
5
6
7
8
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-104
SEA FLOOR
PENETRATION (M)
1
5
10
■ 2.67
■ 2.43
■ 2.32
■ 2.32
■ 2.30
■ 2.08
CONDUCTIVITY

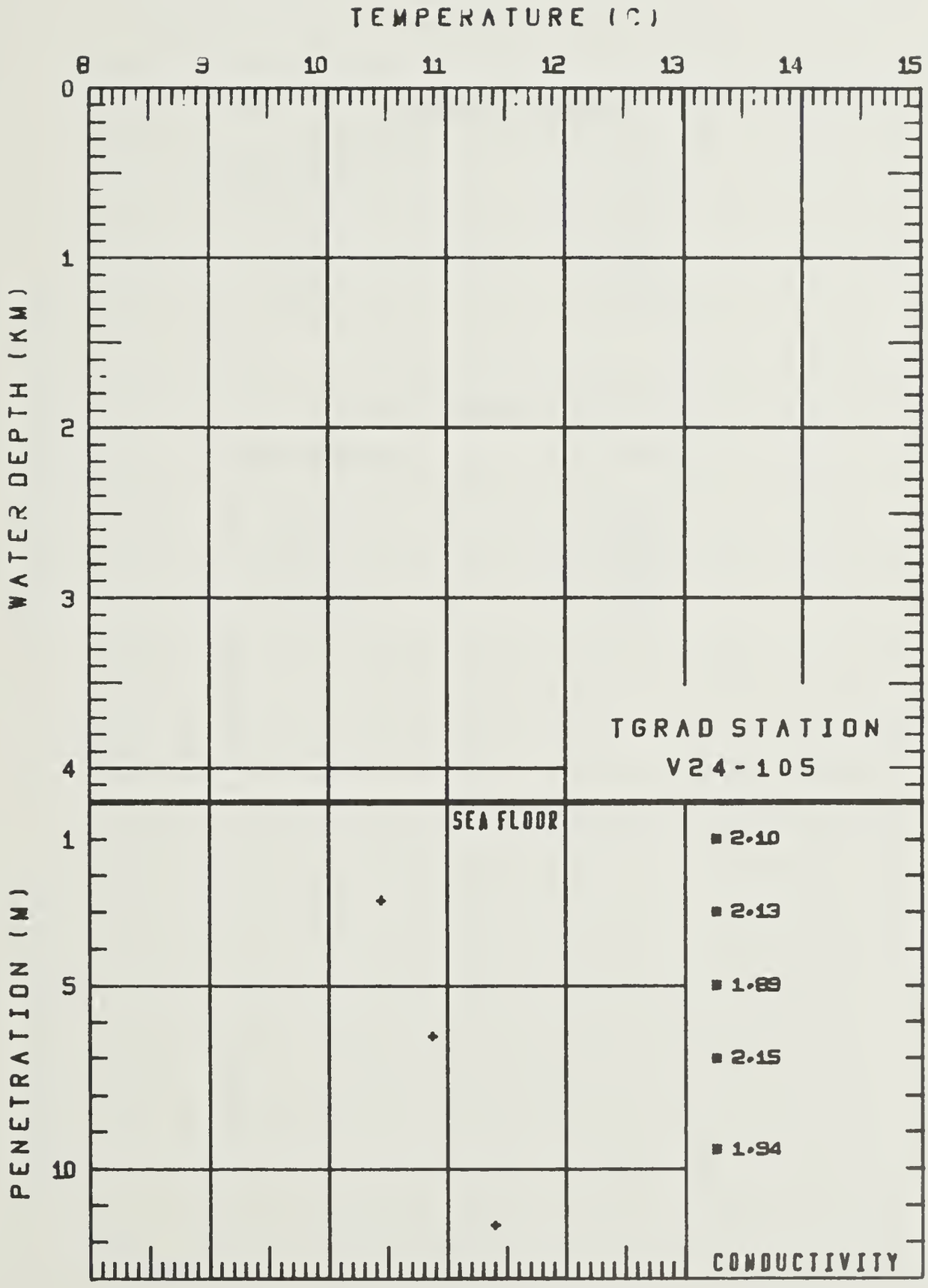
TGRAD STATIONV24-105

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.69	10.44
6.40	10.88
11.54	11.40

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.10
3.00	2.13
5.00	1.89
7.00	2.15
9.50	1.94


TEMPERATURE (C)
8
9
10
11
12
13
14
15
0
1
2
3
4
WATER DEPTH (KM)
TGRAD STATION
V24-105
SEA FLOOR
1
5
10
PENETRATION (M)
2.10
2.13
1.89
2.15
1.94
CONDUCTIVITY

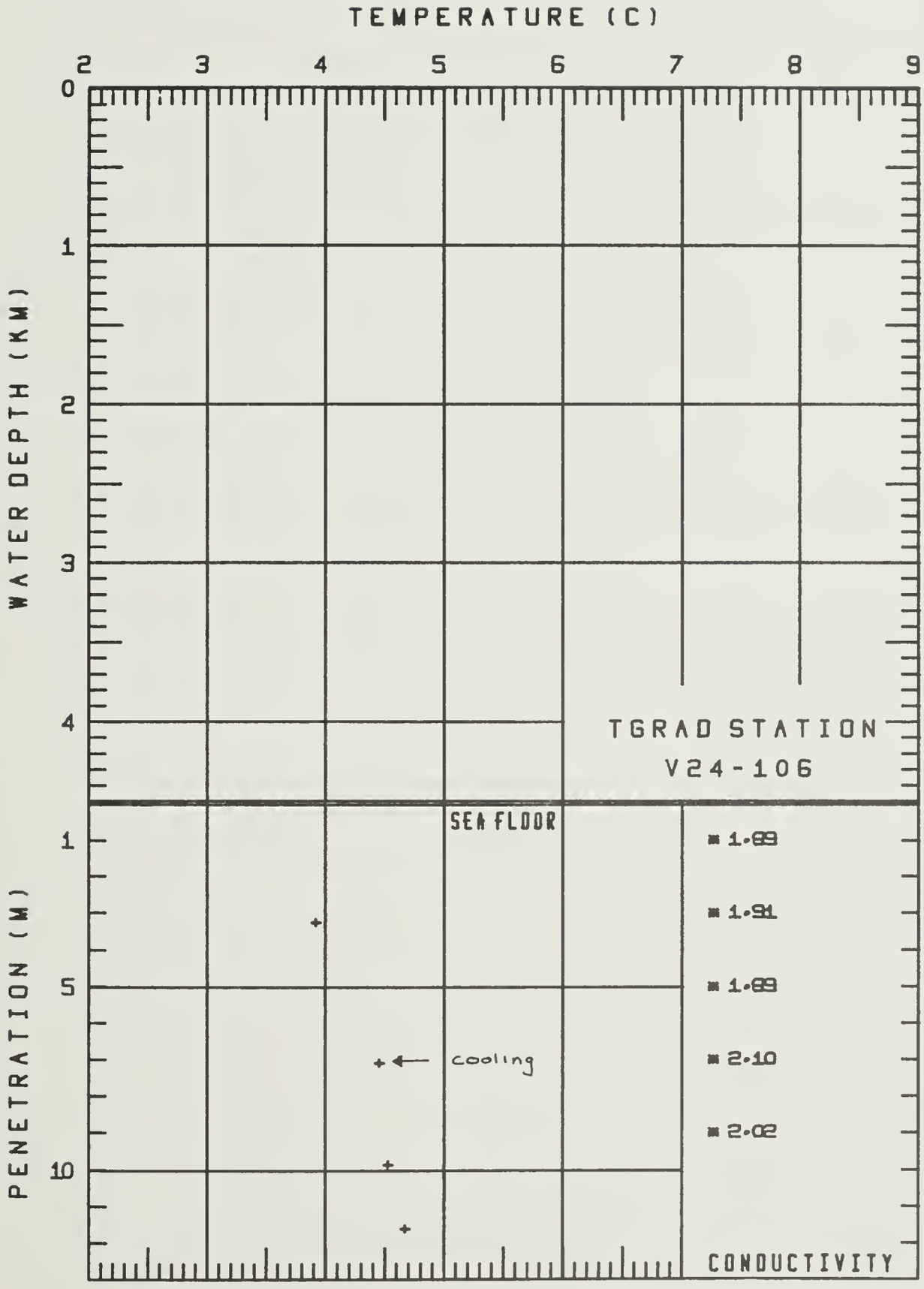
TGRAD STATIONV24-106

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.22	3.92
7.08	4.46
9.85	4.53
11.62	4.67

SEDIMENT CONDUCTIVITIES

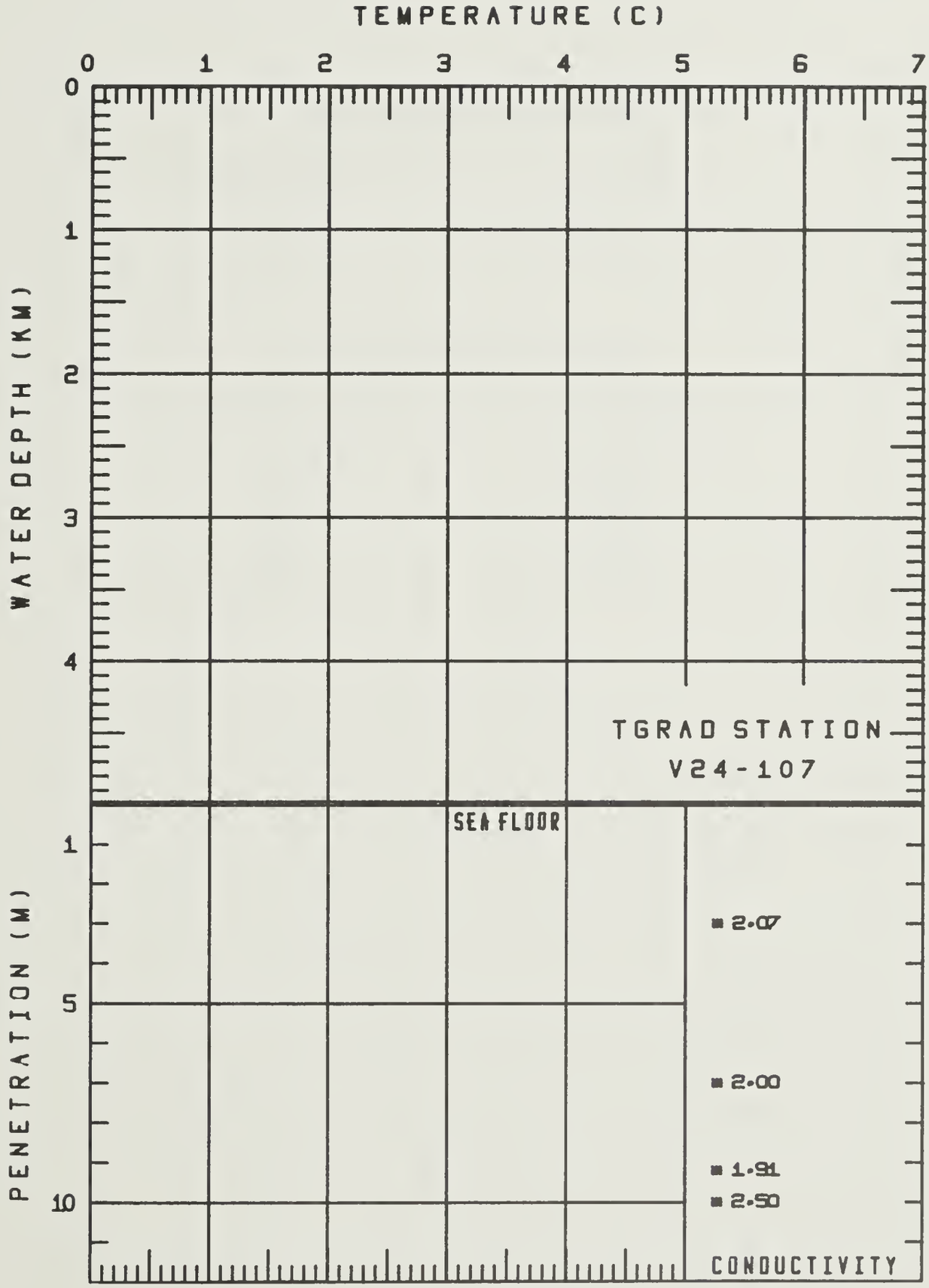
DEPTH	CONDUCTIVITY
1.00	1.89
3.00	1.91
5.00	1.89
7.00	2.10
9.00	2.02


TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-106
PENETRATION (M)
1
5
10
SEA FLOOR
cooling
= 1.88
= 1.91
= 1.88
= 2.10
= 2.02
CONDUCTIVITY

TGRAD STATIONV24-107

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.07
7.00	2.00
9.20	1.91
10.00	2.50


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-107
SEA FLOOR
PENETRATION (M)
1
5
10
= 2.07
= 2.00
= 1.91
= 2.50
CONDUCTIVITY

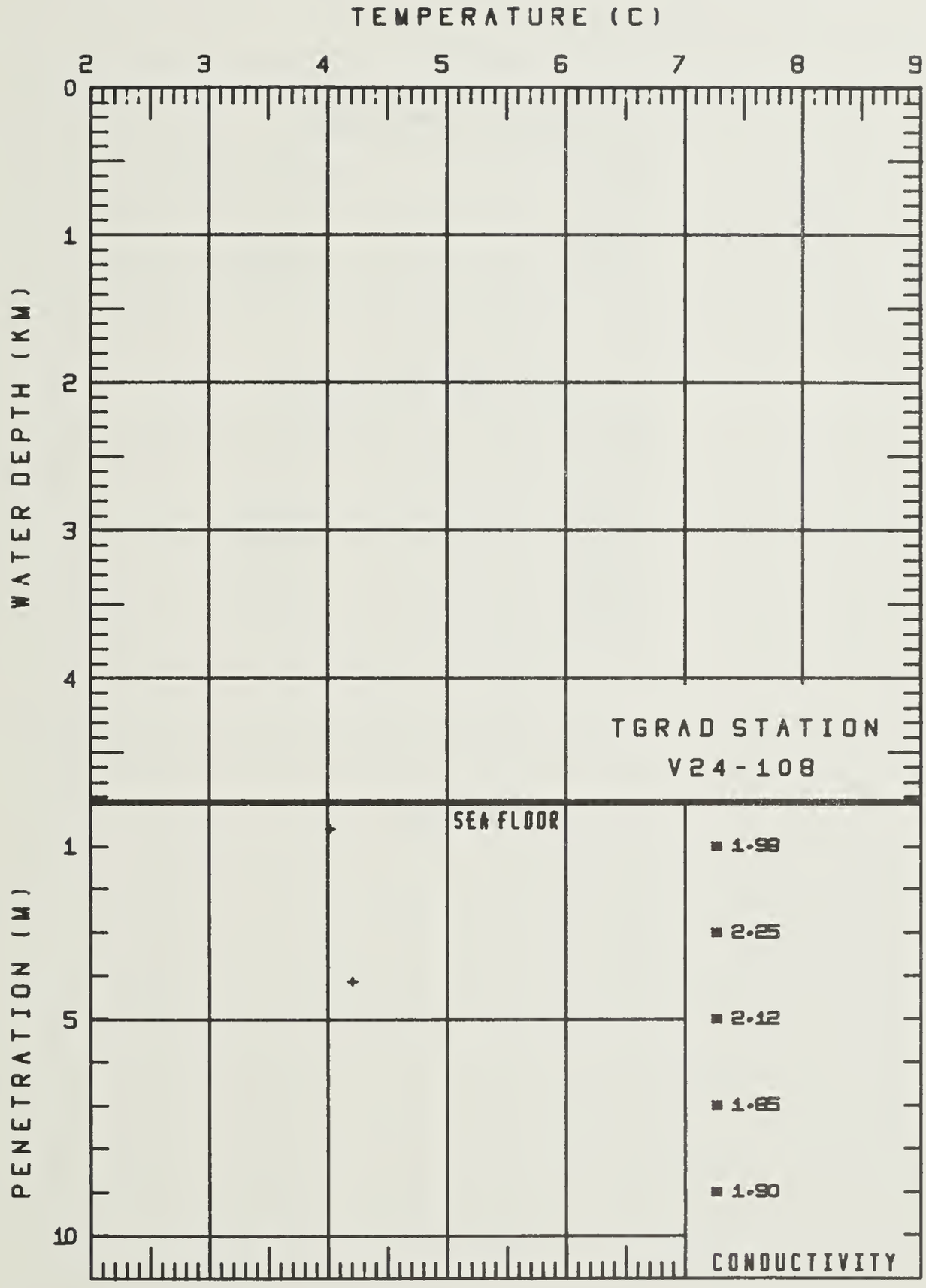
TGRAD STATIONV24-108

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.60	4.02
4.13	4.21

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.98
3.00	2.25
5.00	2.12
7.00	1.85
9.00	1.90

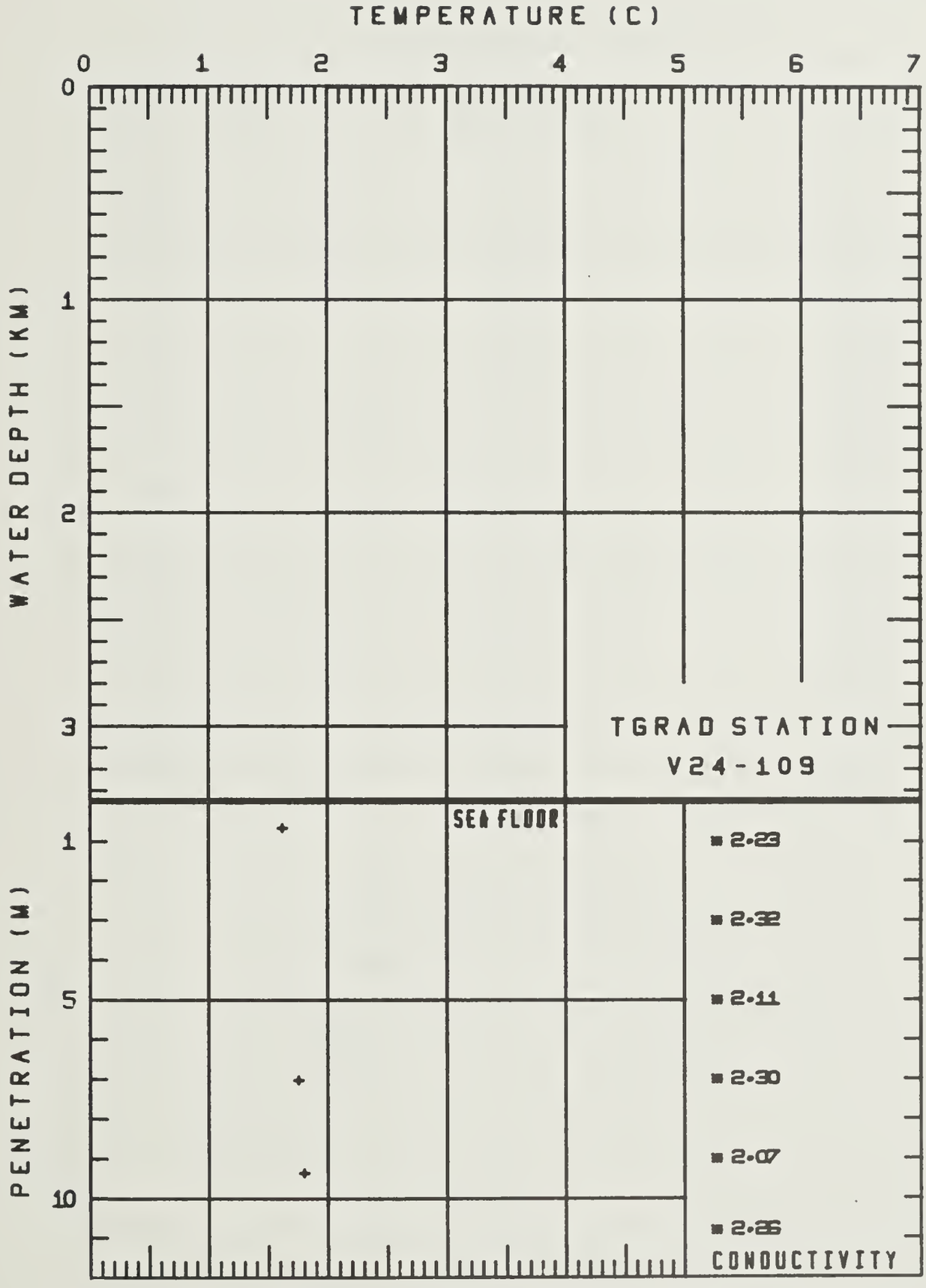

TEMPERATURE (C)
2
3
4
5
6
7
8
9
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-108
SEA FLOOR
PENETRATION (M)
1
5
10
■ 1.98
■ 2.25
■ 2.12
■ 1.85
■ 1.90
CONDUCTIVITY

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.68	1.62
7.01	1.75
9.35	1.80

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.23
3.00	2.32
5.00	2.11
7.00	2.30
9.00	2.07
10.80	2.26


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-109
= 2.23
= 2.32
= 2.11
= 2.30
= 2.07
= 2.26
CONDUCTIVITY

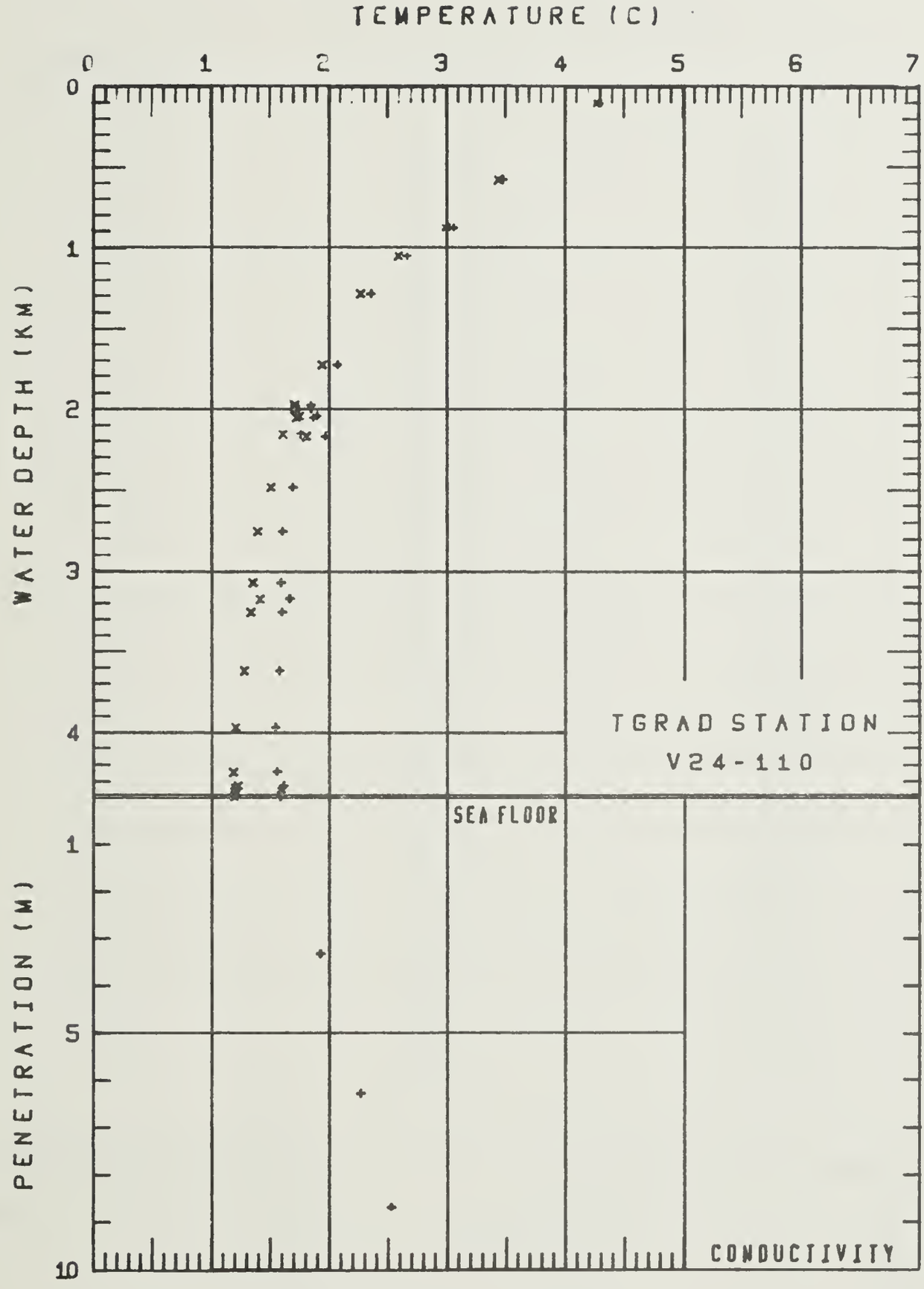
TGRAD STATION V24-110

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
102.	4.28	4.27
575.	3.47	3.43
877.	3.05	2.99
1052.	2.66	2.59
1284.	2.35	2.26
1723.	2.06	1.94
2044.	1.89	1.74
2000.	1.85	1.70
1973.	1.85	1.71
2168.	1.97	1.81
1996.	1.85	1.71
2052.	1.87	1.72
2153.	1.76	1.60
2483.	1.69	1.51
2754.	1.60	1.40
3073.	1.60	1.35
3177.	1.67	1.41
3253.	1.60	1.33
3617.	1.58	1.28
3966.	1.55	1.21
4240.	1.56	1.19
4344.	1.60	1.21
4328.	1.61	1.23
4367.	1.59	1.20
4397.	1.59	1.19

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.31	1.93
6.26	2.27
8.67	2.52


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
PENETRATION (M)
1
5
10
TGRAD STATION
V24-110
SEA FLOOR
CONDUCTIVITY

TGRAD STATION V24-111

WATER TEMPERATURES

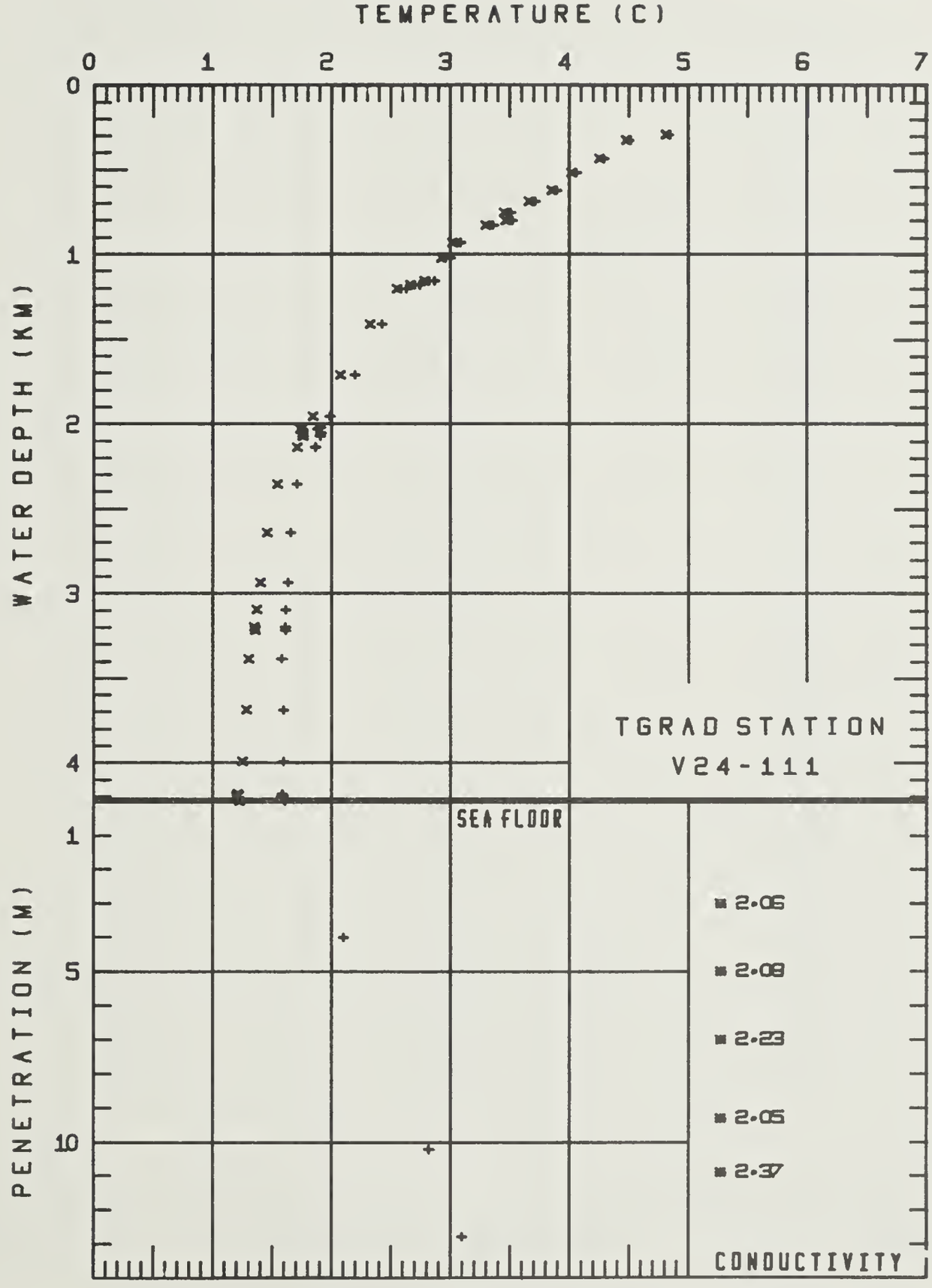
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
289.	4.83	4.81
324.	4.50	4.47
433.	4.28	4.25
516.	4.05	4.01
622.	3.89	3.84
686.	3.71	3.65
749.	3.50	3.45
796.	3.51	3.46
825.	3.35	3.29
927.	3.08	3.01
1019.	2.99	2.92
1152.	2.86	2.78
1178.	2.74	2.66
1202.	2.63	2.55
1407.	2.42	2.32
1706.	2.19	2.07
1954.	1.98	1.84
2026.	1.88	1.73
2069.	1.90	1.75
2020.	1.90	1.75
2050.	1.90	1.76
2133.	1.86	1.71
2351.	1.71	1.54
2637.	1.66	1.46
2935.	1.63	1.40
3094.	1.61	1.37
3195.	1.60	1.35
3214.	1.61	1.35
3384.	1.58	1.30
3683.	1.59	1.28
3989.	1.59	1.25
4189.	1.58	1.21
4206.	1.57	1.20
4181.	1.58	1.21
4194.	1.57	1.20
4223.	1.60	1.22

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.98	2.09
10.22	2.81
12.79	3.09

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.06
5.00	2.08
7.00	2.23
9.30	2.05
10.90	2.37


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-111
SEA FLOOR
PENETRATION (M)
1
5
10
= 2.06
= 2.08
= 2.23
= 2.06
= 2.37
CONDUCTIVITY

TGRAD STATION V24-112

WATER TEMPERATURES

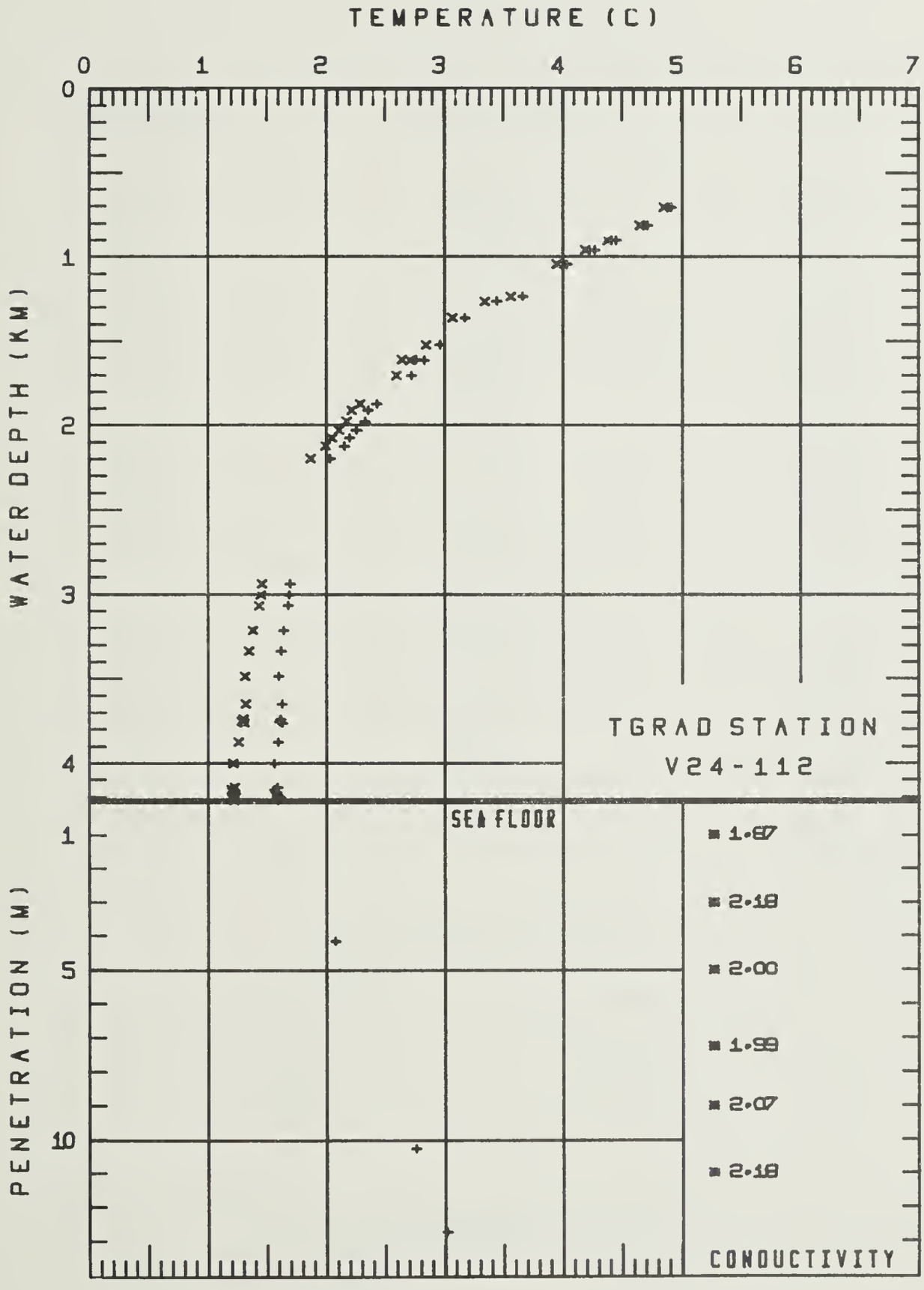
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
704.	4.90	4.85
813.	4.71	4.65
901.	4.45	4.38
959.	4.26	4.19
1043.	4.03	3.95
1232.	3.66	3.56
1263.	3.44	3.34
1362.	3.17	3.07
1522.	2.96	2.84
1612.	2.83	2.71
1608.	2.76	2.64
1703.	2.72	2.59
1871.	2.43	2.29
1908.	2.35	2.21
1972.	2.32	2.18
2024.	2.26	2.10
2074.	2.20	2.05
2117.	2.15	1.99
2196.	2.03	1.87
2935.	1.69	1.46
3000.	1.68	1.45
3065.	1.68	1.44
3210.	1.64	1.38
3333.	1.62	1.35
3485.	1.60	1.32
3650.	1.63	1.32
3739.	1.62	1.30
3759.	1.63	1.31
3752.	1.60	1.29
3873.	1.59	1.26
3998.	1.56	1.22
4143.	1.59	1.22
4167.	1.57	1.21
4184.	1.59	1.22
4199.	1.60	1.23
4170.	1.58	1.21
4154.	1.56	1.20
4197.	1.59	1.21
4221.	1.59	1.22

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.14	2.08
10.26	2.76
12.71	3.02

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.87
3.00	2.18
5.00	2.00
7.25	1.99
9.00	2.07
11.00	2.18


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-112
SEA FLOOR
PENETRATION (M)
1
5
10
= 1.87
= 2.18
= 2.00
= 1.98
= 2.07
= 2.18
CONDUCTIVITY

TGRAD STATION V24-113

WATER TEMPERATURES

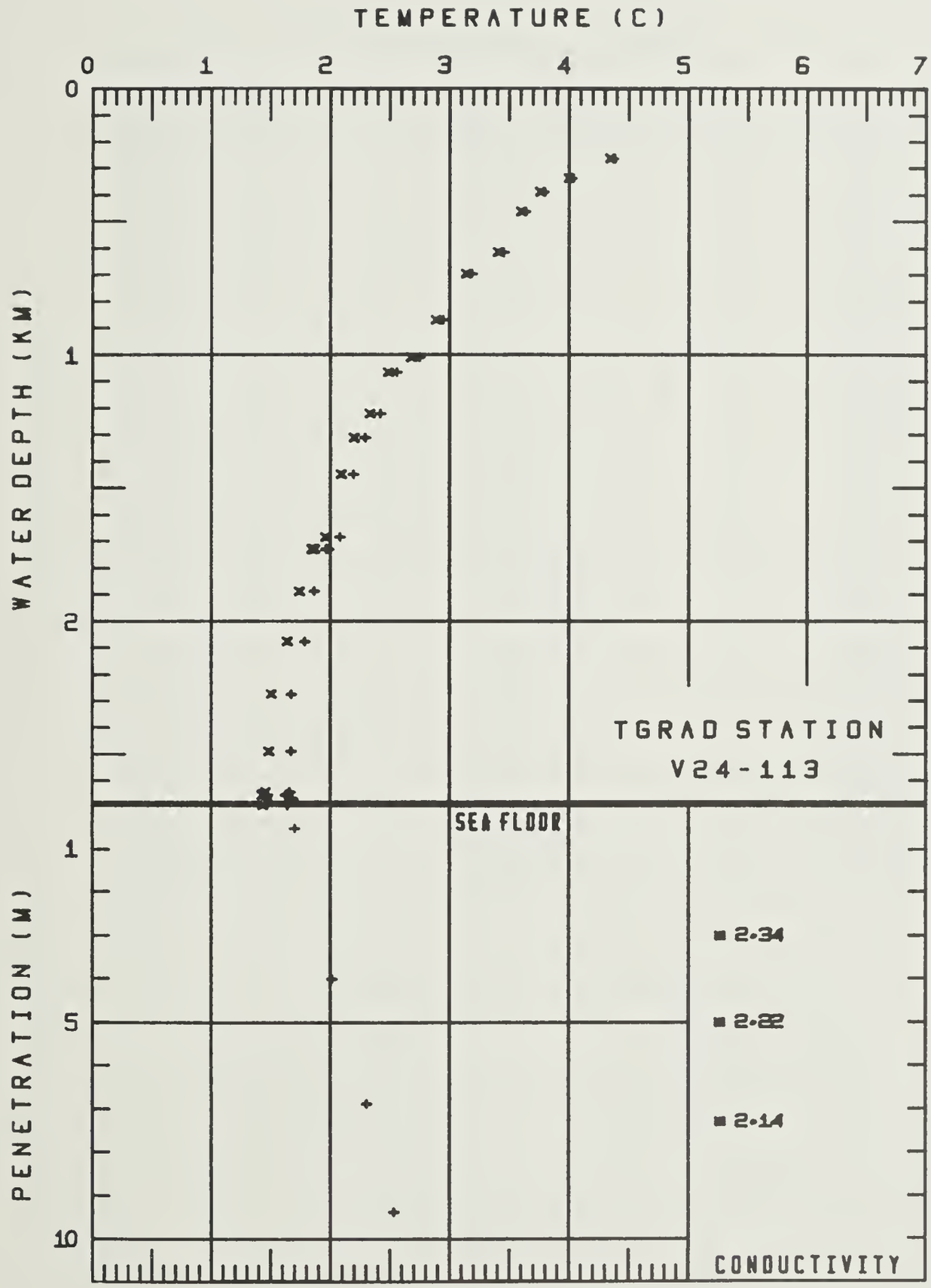
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
259.	4.36	4.35
334.	4.02	4.00
384.	3.79	3.76
459.	3.63	3.60
613.	3.45	3.41
693.	3.19	3.14
866.	2.95	2.89
1006.	2.75	2.68
1065.	2.56	2.49
1220.	2.42	2.33
1308.	2.29	2.20
1446.	2.19	2.09
1681.	2.08	1.96
1725.	1.99	1.87
1727.	1.97	1.85
1884.	1.87	1.74
2073.	1.79	1.64
2271.	1.67	1.51
2484.	1.67	1.49
2636.	1.66	1.46
2646.	1.64	1.44
2663.	1.68	1.48
2660.	1.66	1.46
2649.	1.63	1.43
2646.	1.64	1.44
2688.	1.64	1.44

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.53	1.70
3.99	2.02
6.87	2.30
9.36	2.53

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.34
5.00	2.22
7.30	2.14


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-113
SEA FLOOR
PENETRATION (M)
1
5
10
■ 2.34
■ 2.22
■ 2.14
CONDUCTIVITY

TGRAD STATION V24-114

WATER TEMPERATURES

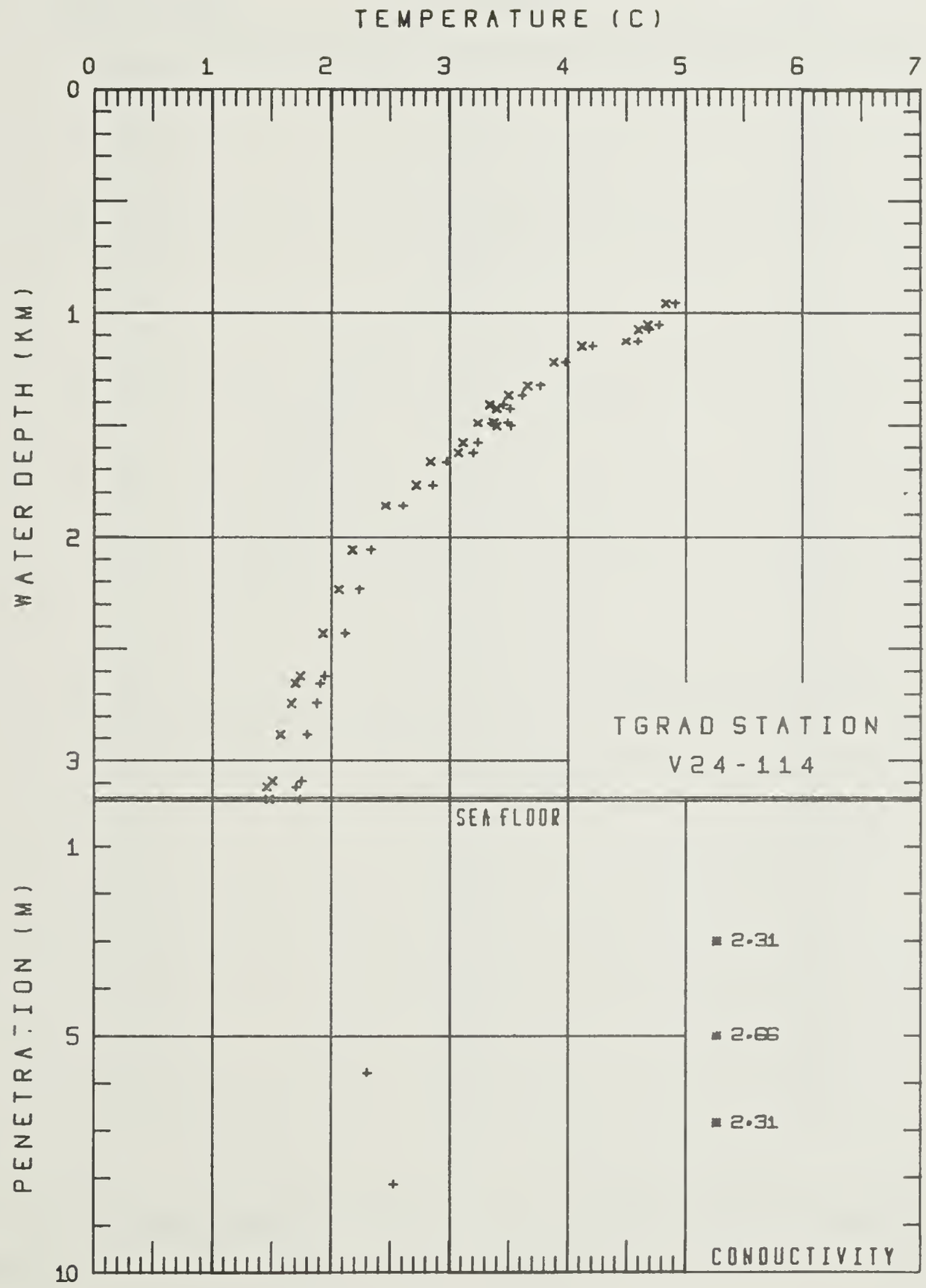
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
959.	4.92	4.83
1055.	4.77	4.68
1075.	4.69	4.60
1128.	4.59	4.50
1147.	4.21	4.12
1220.	3.98	3.88
1324.	3.77	3.66
1367.	3.61	3.50
1408.	3.45	3.34
1503.	3.52	3.40
1488.	3.50	3.38
1427.	3.51	3.40
1492.	3.36	3.24
1578.	3.24	3.11
1623.	3.20	3.07
1661.	2.97	2.84
1767.	2.86	2.72
1862.	2.60	2.46
2059.	2.34	2.18
2233.	2.24	2.07
2430.	2.12	1.93
2620.	1.94	1.74
2654.	1.91	1.70
2740.	1.88	1.67
2883.	1.80	1.57
3091.	1.75	1.51
3114.	1.71	1.46
3171.	1.74	1.48

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
5.77	2.31
8.14	2.52

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.31
5.00	2.66
6.85	2.31


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-114
SEA FLOOR
PENETRATION (M)
1
5
10
■ 2.31
■ 2.86
■ 2.31
CONDUCTIVITY

TGRAD STATION V24-115

WATER TEMPERATURES

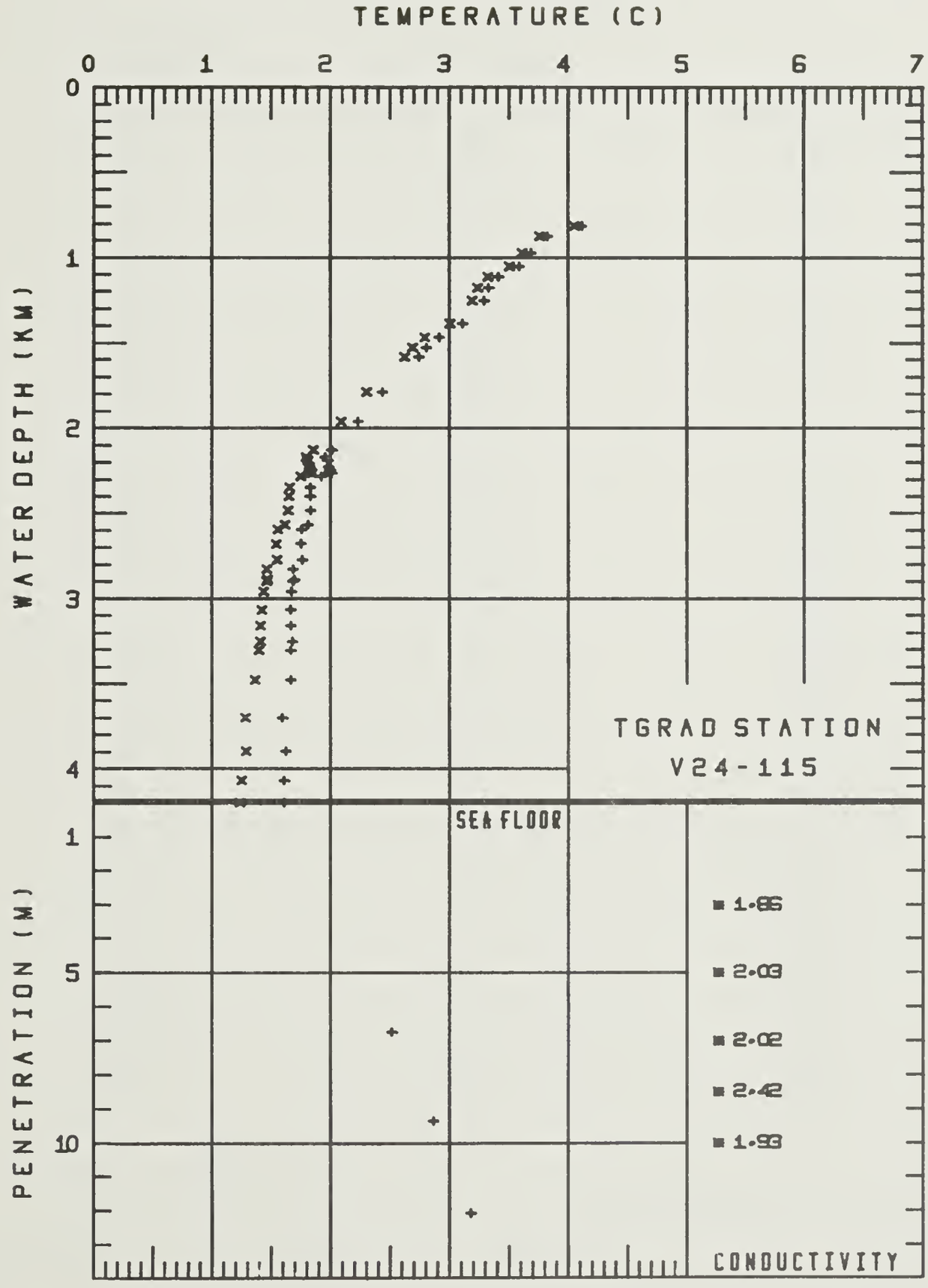
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
812.	4.11	4.05
870.	3.82	3.75
969.	3.68	3.61
1047.	3.58	3.50
1111.	3.41	3.32
1175.	3.32	3.24
1250.	3.28	3.19
1383.	3.10	3.00
1465.	2.91	2.80
1526.	2.80	2.69
1578.	2.74	2.62
1783.	2.43	2.30
1958.	2.23	2.08
2125.	2.01	1.85
2166.	1.95	1.79
2185.	1.97	1.81
2260.	2.01	1.84
2242.	1.99	1.82
2258.	1.99	1.82
2225.	1.98	1.82
2281.	1.92	1.75
2345.	1.83	1.65
2397.	1.82	1.65
2478.	1.83	1.64
2563.	1.81	1.61
2593.	1.75	1.56
2674.	1.75	1.54
2768.	1.76	1.55
2823.	1.68	1.46
2884.	1.69	1.47
2895.	1.68	1.46
2955.	1.67	1.44
3063.	1.66	1.42
3154.	1.66	1.41
3250.	1.67	1.41
3298.	1.66	1.39
3470.	1.66	1.37
3695.	1.59	1.28
3890.	1.62	1.28
4062.	1.60	1.25
4194.	1.61	1.23

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
6.74	2.51
9.35	2.86
12.07	3.18

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	1.86
5.00	2.03
7.00	2.02
8.50	2.42
10.00	1.93


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-115
■ 1.86
■ 2.03
■ 2.02
■ 2.42
■ 1.93
CONDUCTIVITY

TGRAD STATION V24-116

WATER TEMPERATURES

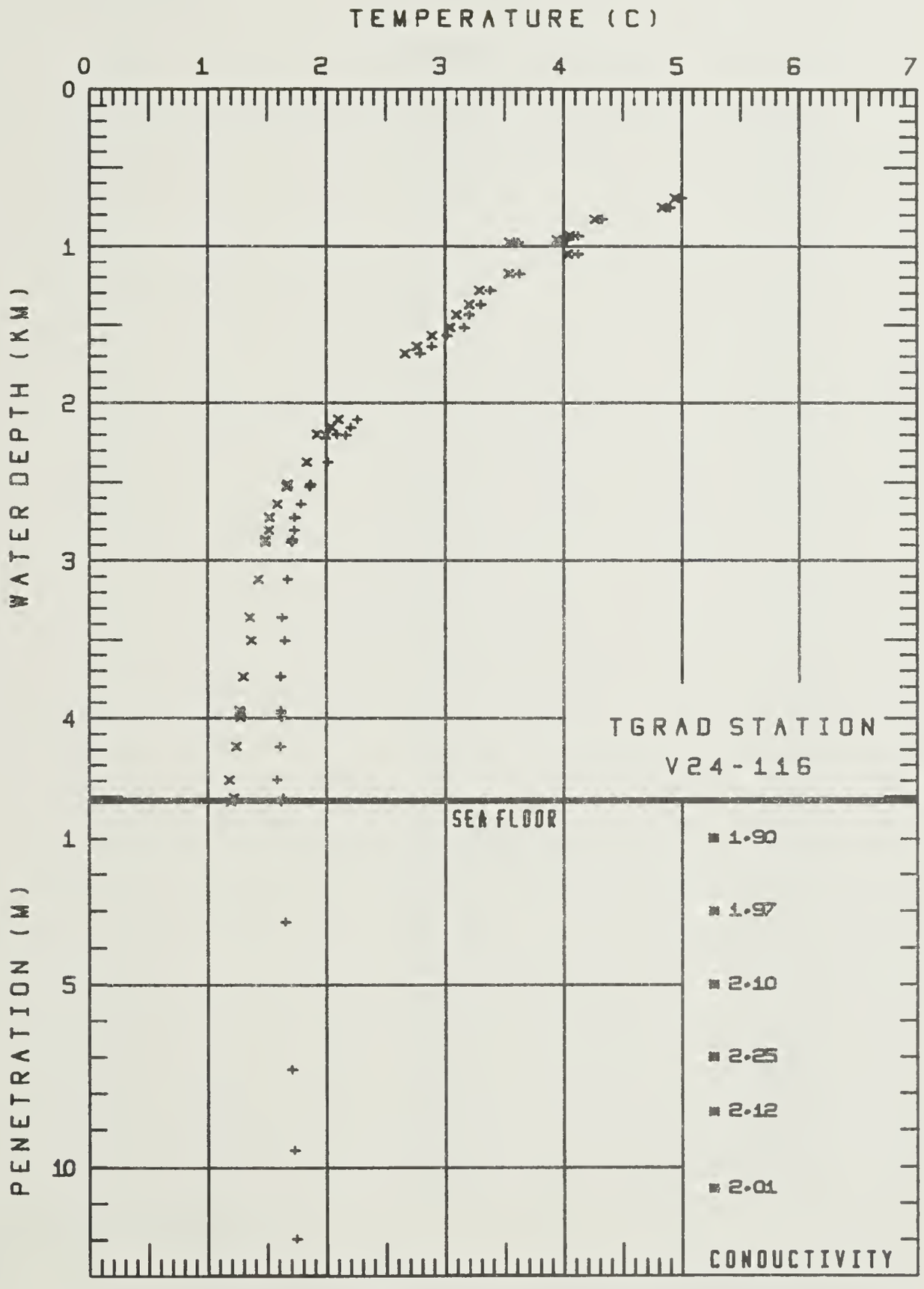
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
688.	5.00	4.94
750.	4.90	4.83
826.	4.33	4.26
930.	4.12	4.05
955.	4.02	3.94
1044.	4.12	4.03
970.	3.62	3.54
1173.	3.63	3.53
1277.	3.38	3.28
1369.	3.30	3.20
1435.	3.20	3.09
1513.	3.16	3.04
1566.	3.01	2.89
1637.	2.89	2.76
1679.	2.79	2.66
2097.	2.26	2.10
2151.	2.20	2.04
2202.	2.16	2.00
2196.	2.09	1.92
2370.	2.01	1.83
2509.	1.87	1.68
2525.	1.86	1.67
2638.	1.79	1.59
2724.	1.73	1.52
2804.	1.73	1.51
2865.	1.71	1.49
2881.	1.71	1.48
3116.	1.68	1.43
3358.	1.63	1.36
3503.	1.66	1.36
3732.	1.61	1.30
3951.	1.61	1.27
3988.	1.62	1.27
3961.	1.61	1.27
4178.	1.61	1.24
4387.	1.58	1.18
4504.	1.63	1.22
4529.	1.61	1.20

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.29	1.66
7.33	1.71
9.54	1.73
11.95	1.75

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.90
3.00	1.97
5.00	2.10
7.00	2.25
8.50	2.12
10.60	2.01


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-116
SEA FLOOR
PENETRATION (M)
1
5
10
= 1.90
= 1.97
= 2.10
= 2.25
= 2.12
= 2.01
CONDUCTIVITY

TGRAD STATION V24-117

WATER TEMPERATURES

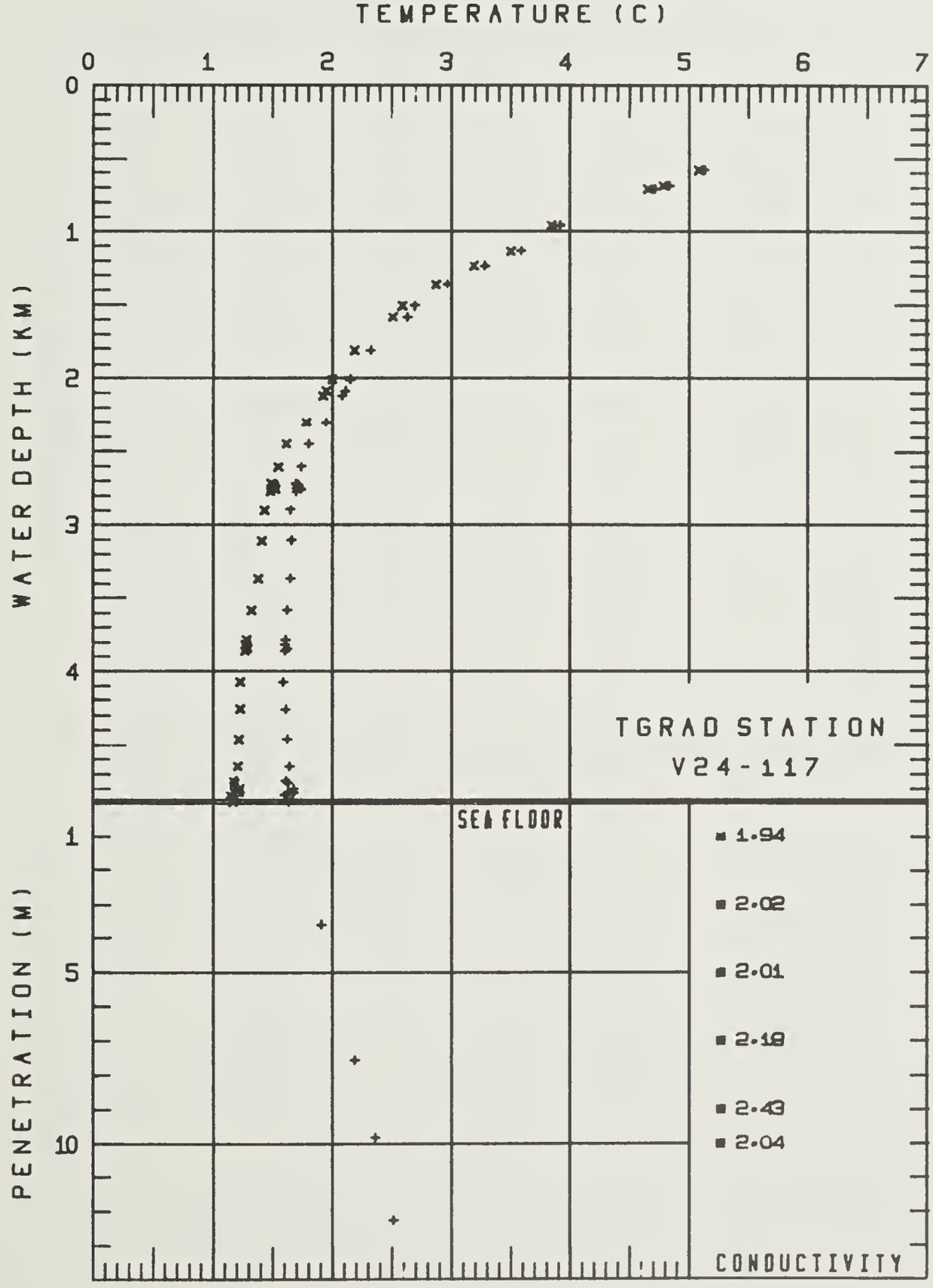
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
578.	5.13	5.08
684.	4.84	4.78
706.	4.71	4.65
953.	3.92	3.84
1129.	3.59	3.50
1231.	3.28	3.19
1359.	2.97	2.87
1504.	2.69	2.58
1582.	2.62	2.51
1811.	2.32	2.19
2003.	2.14	2.00
2085.	2.10	1.95
2118.	2.08	1.92
2298.	1.95	1.78
2447.	1.80	1.61
2599.	1.74	1.55
2717.	1.69	1.49
2720.	1.71	1.50
2753.	1.73	1.52
2734.	1.72	1.51
2749.	1.70	1.49
2770.	1.69	1.48
2897.	1.65	1.42
3103.	1.65	1.41
3361.	1.65	1.37
3582.	1.62	1.32
3779.	1.60	1.28
3813.	1.60	1.27
3842.	1.62	1.29
3854.	1.60	1.27
4071.	1.58	1.23
4252.	1.61	1.23
4459.	1.62	1.21
4643.	1.64	1.21
4757.	1.63	1.18
4818.	1.67	1.22
4794.	1.68	1.22
4740.	1.61	1.16
4824.	1.67	1.21
4820.	1.63	1.18
4820.	1.63	1.17
4837.	1.60	1.15
4869.	1.63	1.17
4888.	1.63	1.17

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.60	1.91
7.57	2.19
9.83	2.36
12.26	2.51

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.94
3.00	2.02
5.00	2.01
7.00	2.18
9.00	2.43
10.00	2.04


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-117
1.94
2.02
2.01
2.18
2.43
2.04
CONDUCTIVITY

TGRAD STATION V24-118

WATER TEMPERATURES

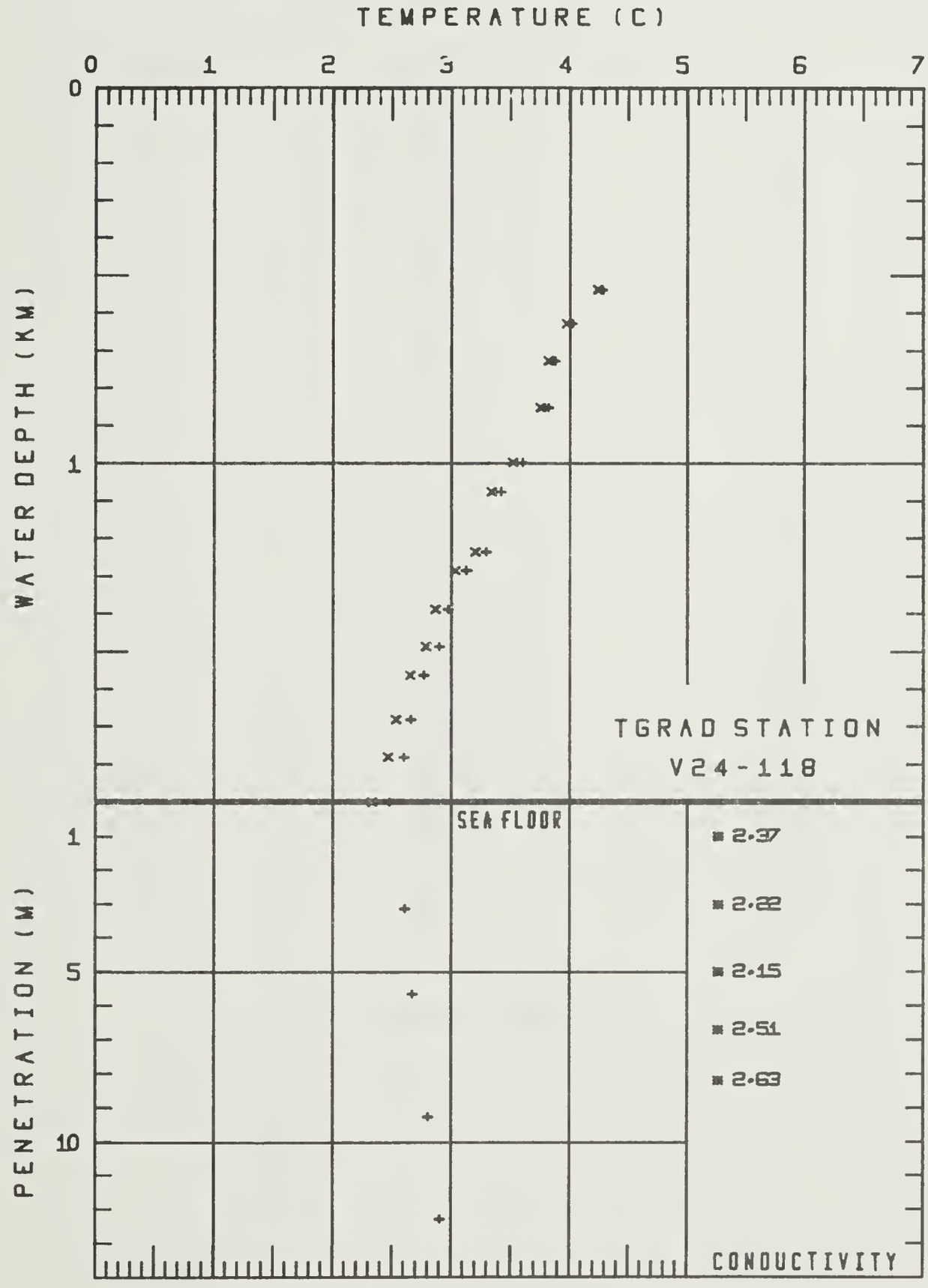
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
537.	4.28	4.24
627.	4.02	3.97
726.	3.87	3.82
851.	3.82	3.75
997.	3.60	3.52
1074.	3.42	3.34
1235.	3.29	3.20
1284.	3.13	3.03
1387.	2.97	2.87
1487.	2.90	2.79
1562.	2.77	2.65
1681.	2.66	2.53
1780.	2.60	2.47
1900.	2.48	2.33

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.13	2.61
5.64	2.67
9.27	2.81
12.27	2.90

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.37
3.00	2.22
5.00	2.15
6.70	2.51
8.20	2.63


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
PENETRATION (M)
1
5
10
SEA FLOOR
TGRAD STATION
V24-118
= 2.37
= 2.22
= 2.15
= 2.51
= 2.63
CONDUCTIVITY

TGRAD STATION V24-119

WATER TEMPERATURES

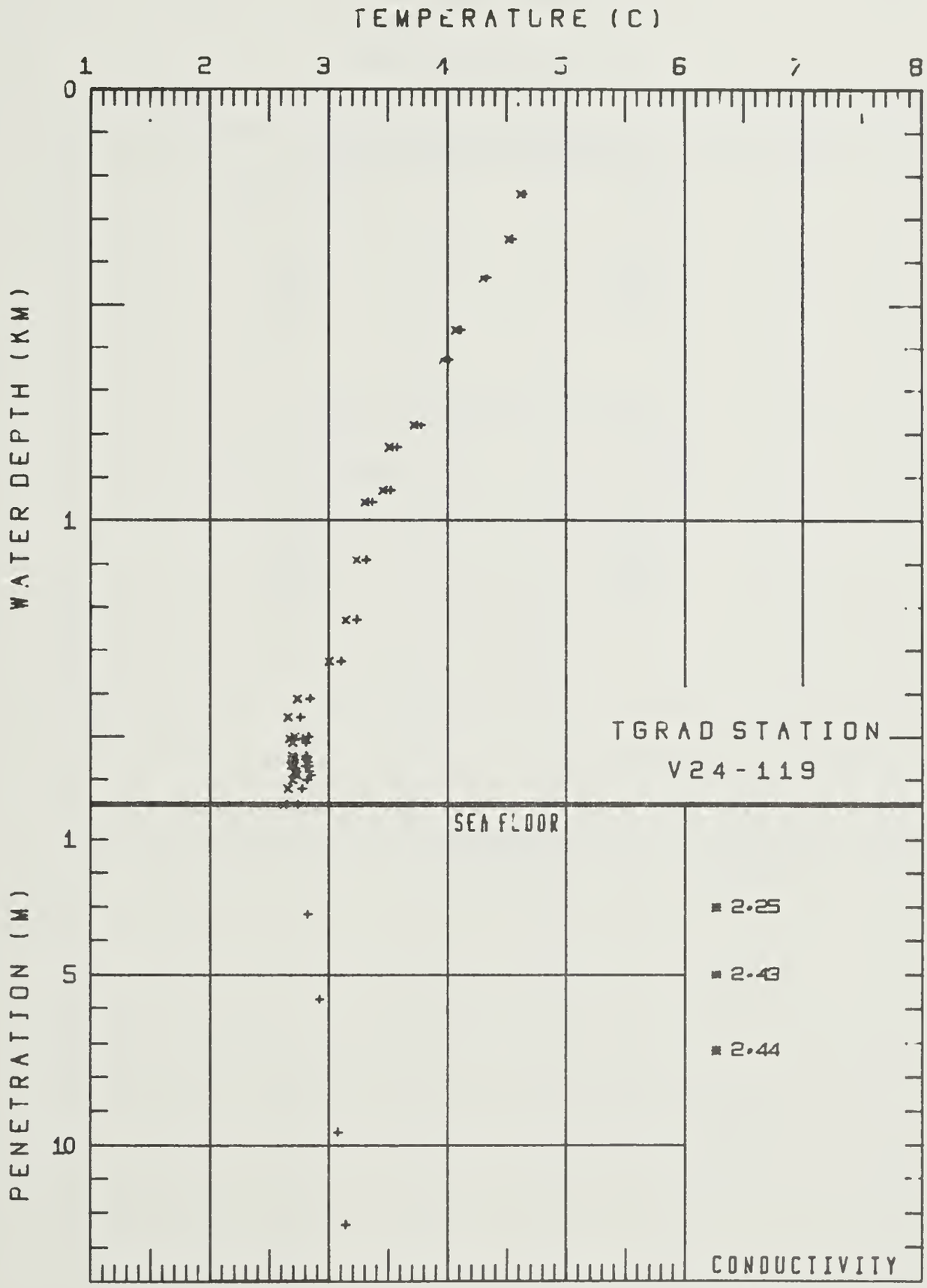
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
243.	4.63	4.62
348.	4.54	4.52
438.	4.33	4.30
558.	4.10	4.06
627.	4.01	3.96
779.	3.77	3.71
830.	3.57	3.51
929.	3.52	3.45
956.	3.37	3.30
1089.	3.31	3.23
1229.	3.24	3.14
1326.	3.10	3.00
1412.	2.84	2.74
1500.	2.83	2.71
1543.	2.81	2.69
1581.	2.83	2.71
1567.	2.82	2.71
1552.	2.81	2.69
1589.	2.85	2.73
1599.	2.81	2.69
1547.	2.82	2.71
1454.	2.76	2.65
1513.	2.81	2.69
1558.	2.82	2.70
1503.	2.78	2.67
1548.	2.80	2.69
1566.	2.80	2.68
1551.	2.80	2.68
1619.	2.78	2.65
1657.	2.74	2.61

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.23	2.82
5.72	2.92
9.62	3.07
12.34	3.14

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.25
5.00	2.43
7.20	2.44


TEMPERATURE (C)
1
2
3
4
5
6
7
8
0
1
WATER DEPTH (KM)
TGRAD STATION
V24-119
SEA FLOOR
1
5
10
PENETRATION (M)
= 2.25
= 2.43
= 2.44
CONDUCTIVITY

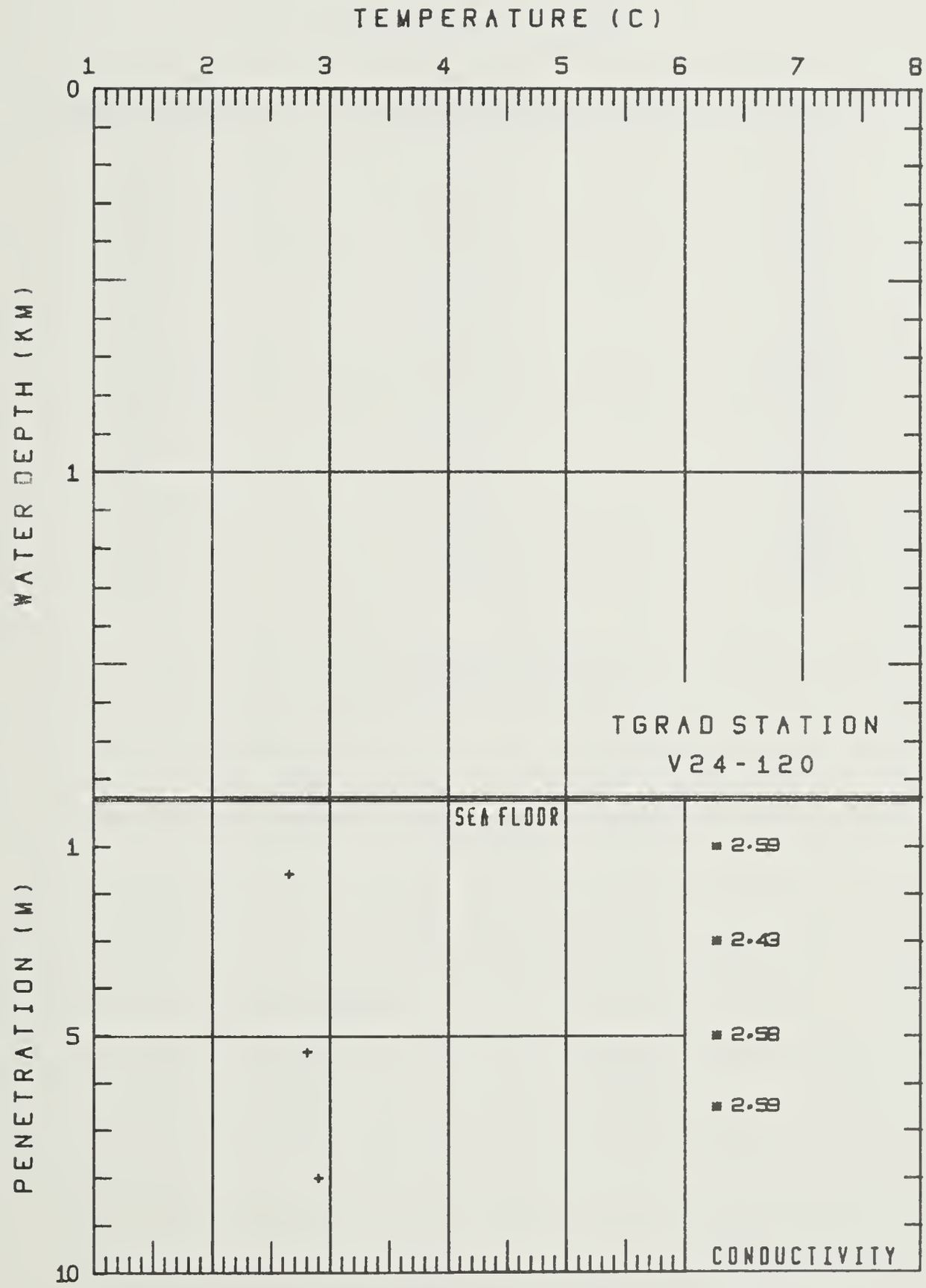
TGRAD STATIONV24-120

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.58	2.65
5.35	2.81
8.00	2.90

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.59
3.00	2.43
5.00	2.58
6.50	2.59


TEMPERATURE (C)
1
2
3
4
5
6
7
8
0
1
WATER DEPTH (KM)
TGRAD STATION
V24-120
SEA FLOOR
1
5
10
PENETRATION (M)
■ 2.99
■ 2.43
■ 2.98
■ 2.99
CONDUCTIVITY

TGRAD STATION V24-121

WATER TEMPERATURES

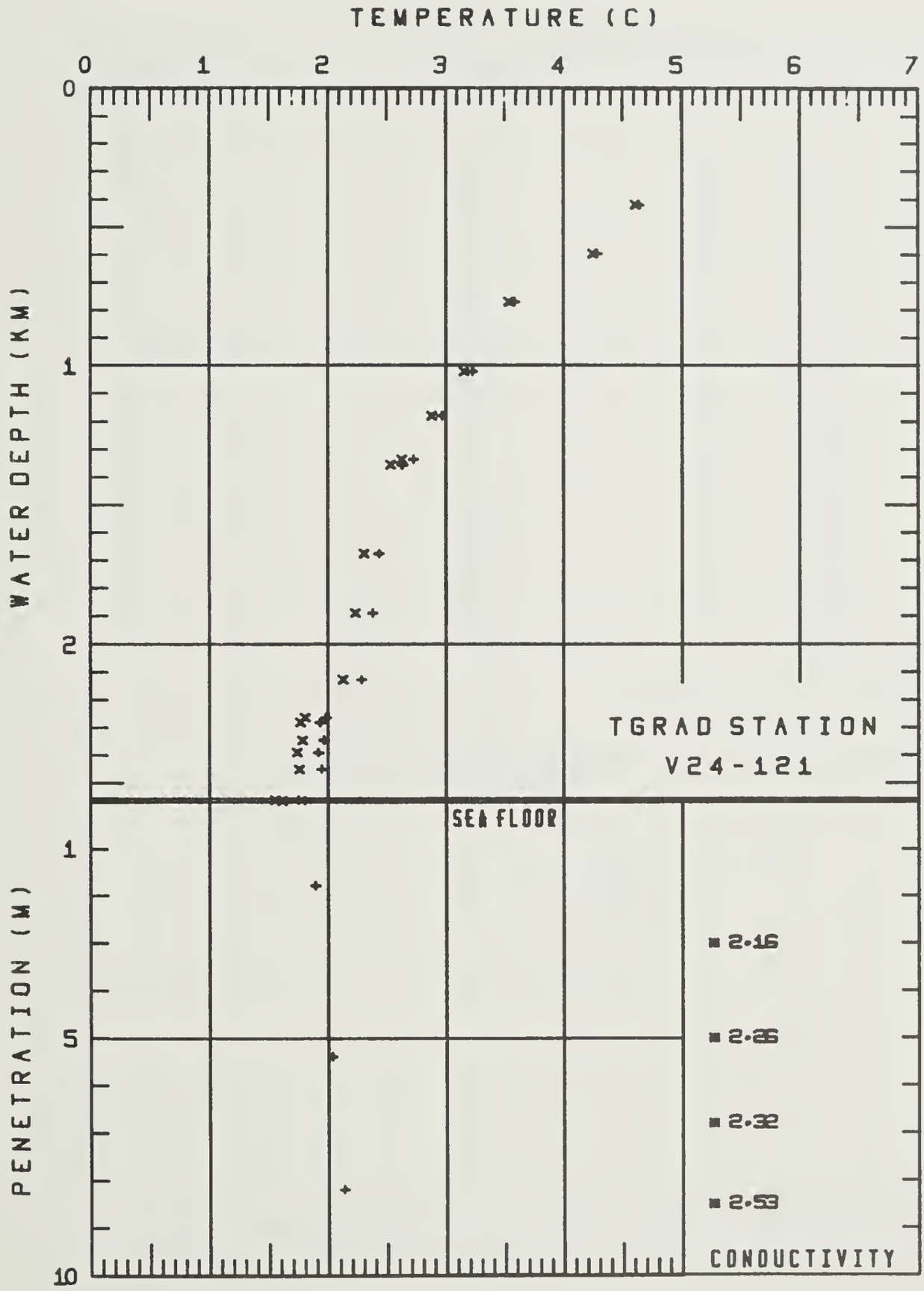
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
418.	4.64	4.61
596.	4.29	4.25
769.	3.59	3.53
1018.	3.23	3.15
1179.	2.97	2.88
1336.	2.72	2.63
1354.	2.63	2.53
1675.	2.43	2.31
1888.	2.38	2.24
2126.	2.29	2.13
2263.	1.98	1.81
2448.	1.95	1.76
2343.	1.96	1.79
2282.	1.93	1.76
2390.	1.92	1.74
2562.	1.81	1.61
2560.	1.74	1.55

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.79	1.90
5.39	2.03
8.19	2.13

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.16
5.00	2.26
6.80	2.32
8.50	2.53


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
PENETRATION (M)
1
5
10
TGRAD STATION
V24-121
SEA FLOOR
= 2.16
= 2.26
= 2.32
= 2.53
CONDUCTIVITY

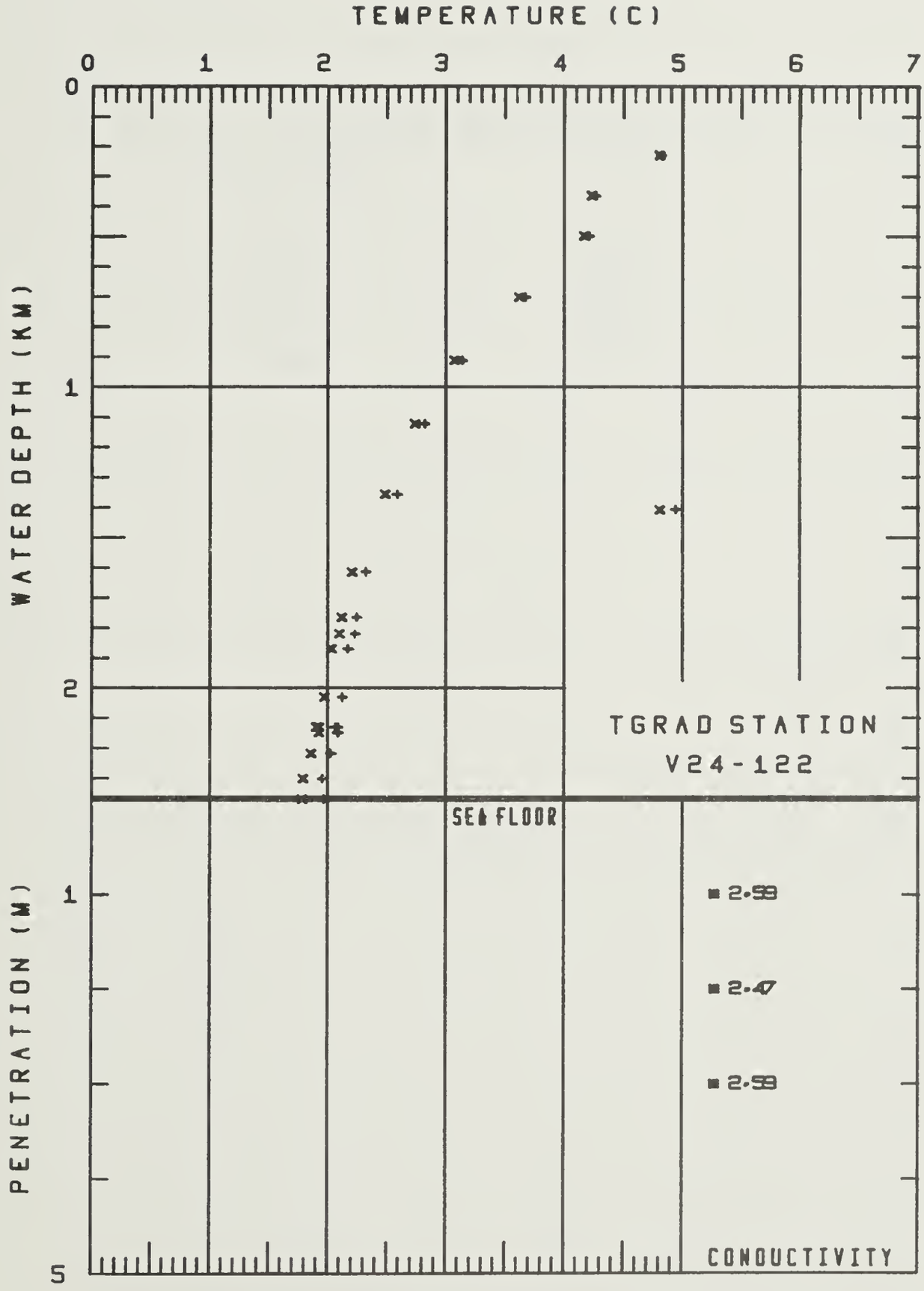
TGRAD STATION V24-122

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
229.	4.81	4.80
362.	4.25	4.23
497.	4.20	4.16
699.	3.67	3.61
911.	3.13	3.07
1121.	2.81	2.74
1355.	2.58	2.48
1404.	4.93	4.80
1615.	2.32	2.20
1762.	2.24	2.11
1819.	2.23	2.09
1870.	2.17	2.03
2029.	2.12	1.97
2129.	2.07	1.92
2129.	2.08	1.92
2149.	2.08	1.92
2129.	2.06	1.90
2217.	2.02	1.86
2302.	1.96	1.78
2369.	1.96	1.78

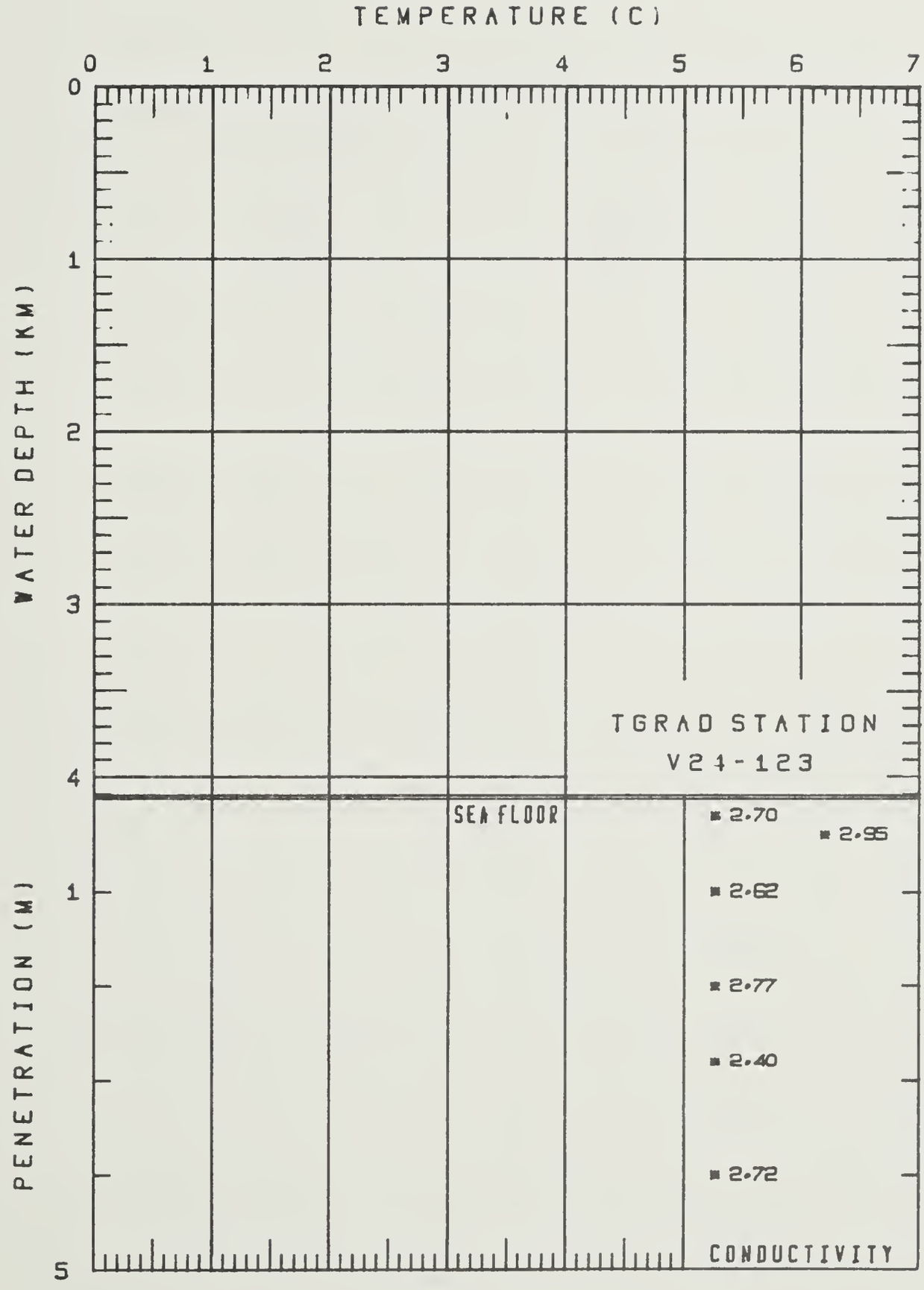
SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.59
2.00	2.47
3.00	2.59


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-122
SEA FLOOR
PENETRATION (M)
1
5
■ 2.98
■ 2.47
■ 2.98
CONDUCTIVITY

SEDIMENT CONDUCTIVITIES

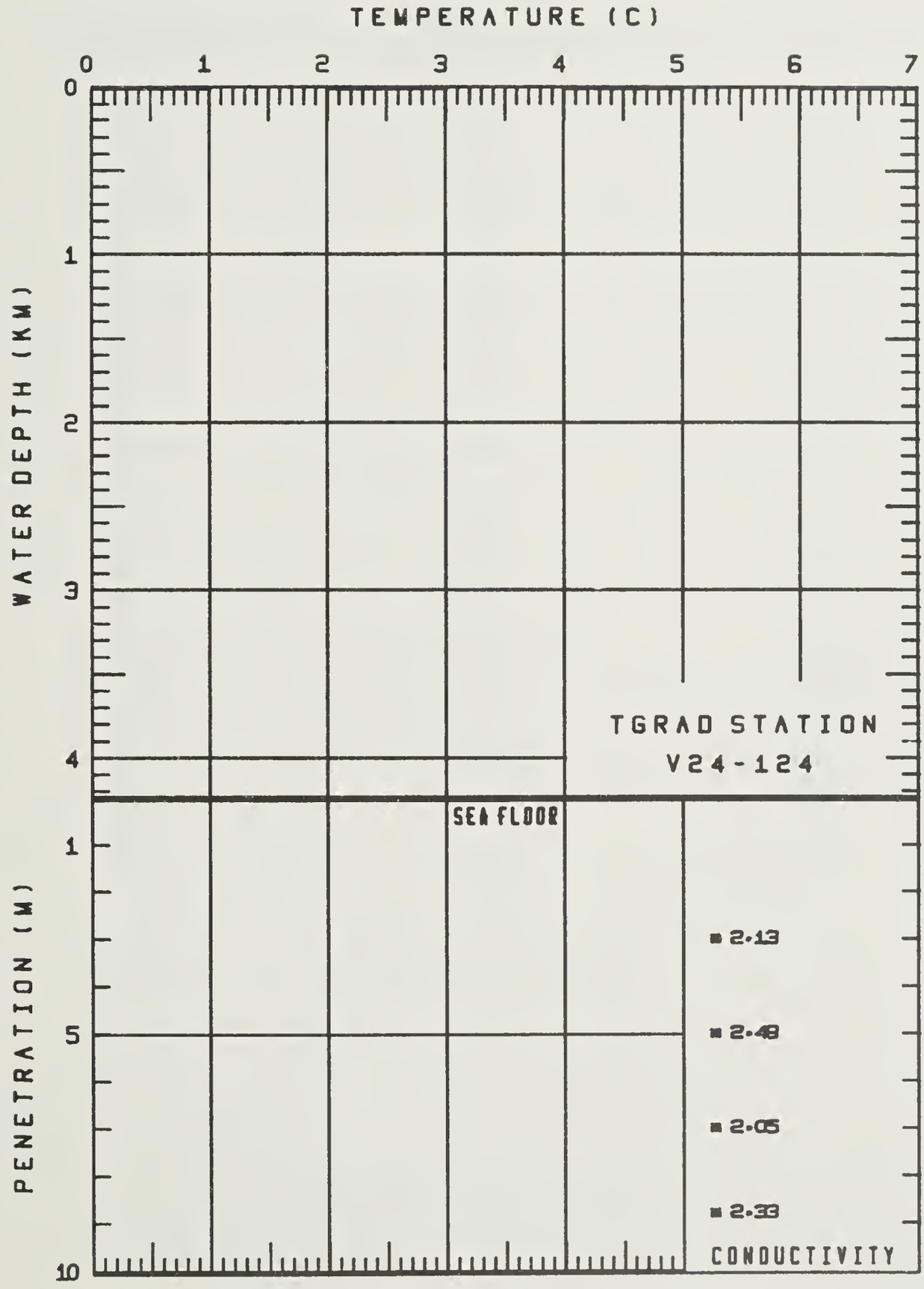
DEPTH	CONDUCTIVITY
0.20	2.70
0.40	2.95
1.00	2.62
2.00	2.77
2.80	2.40
4.00	2.72


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-123
SEA FLOOR
PENETRATION (M)
1
5
2.70
2.95
2.62
2.77
2.40
2.72
CONDUCTIVITY

TGRAD STATIONV24-124

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.13
5.00	2.48
7.00	2.05
8.80	2.33


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-124
SEA FLOOR
PENETRATION (M)
1
5
10
= 2.13
= 2.48
= 2.05
= 2.33
CONDUCTIVITY

TGRAD STATION V24-125

WATER TEMPERATURES

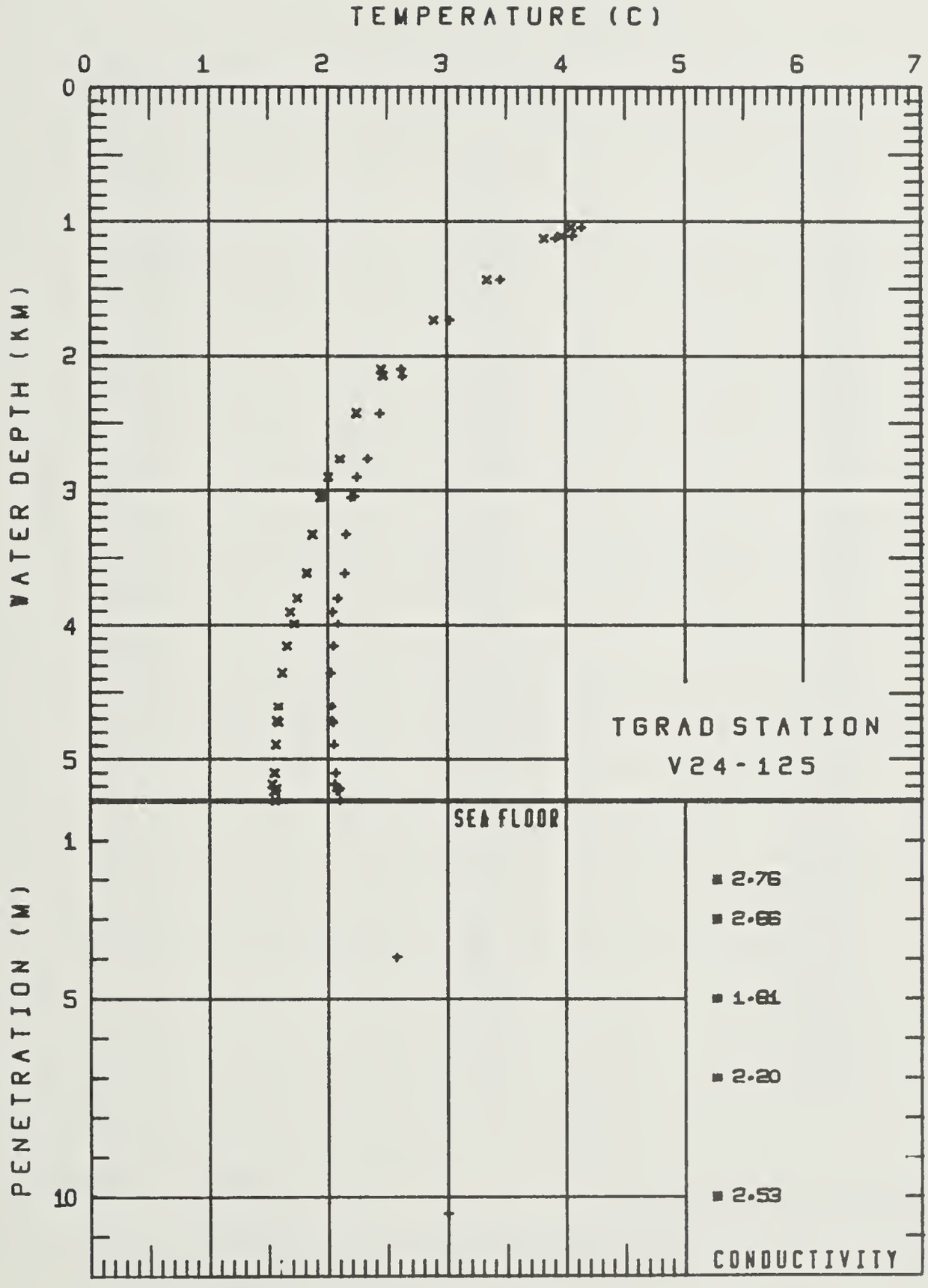
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1045.	4.13	4.04
1107.	4.05	3.96
1128.	3.91	3.82
1434.	3.45	3.33
1735.	3.02	2.88
2143.	2.63	2.46
2097.	2.61	2.44
2425.	2.43	2.24
2763.	2.33	2.10
2901.	2.24	2.00
3050.	2.19	1.94
3042.	2.22	1.96
3326.	2.15	1.86
3610.	2.14	1.82
3804.	2.08	1.74
3987.	2.08	1.72
3899.	2.03	1.68
4153.	2.04	1.66
4354.	2.02	1.61
4602.	2.03	1.58
4718.	2.04	1.58
4708.	2.03	1.57
4889.	2.04	1.56
5098.	2.06	1.54
5178.	2.06	1.53
5210.	2.10	1.56
5097.	2.06	1.54
5236.	2.09	1.55
5232.	2.07	1.54
5304.	2.10	1.55

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.96	2.57
10.41	3.00

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
2.00	2.76
3.00	2.66
5.00	1.81
7.00	2.20
10.00	2.53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1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-125
SEA FLOOR
PENETRATION (M)
1
5
10
■ 2.76
■ 2.66
■ 1.81
■ 2.20
■ 2.53
CONDUCTIVITY

TGRAD STATION V24-126

WATER TEMPERATURES

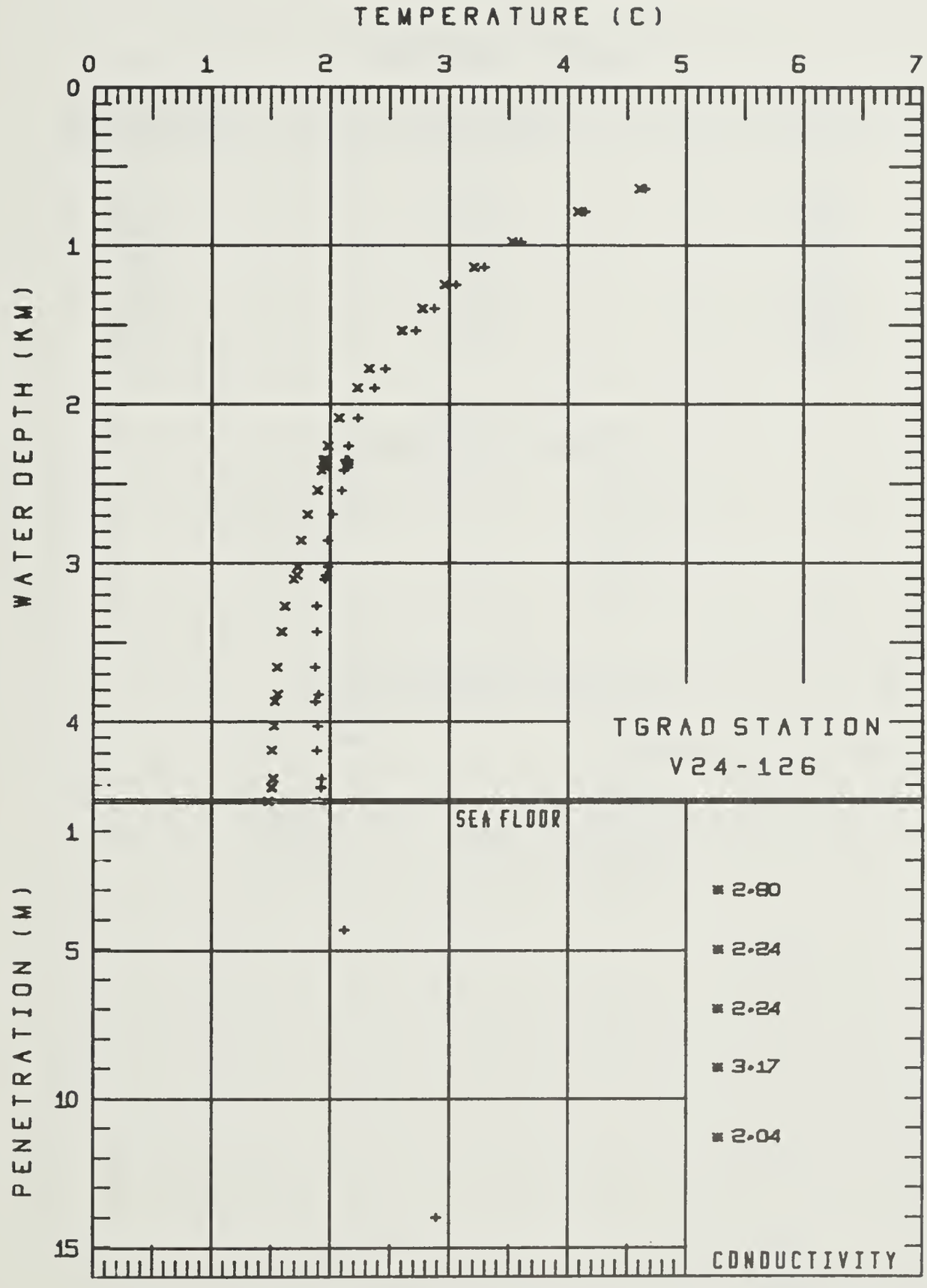
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
639.	4.65	4.60
785.	4.14	4.08
972.	3.60	3.53
1134.	3.29	3.21
1243.	3.05	2.96
1395.	2.88	2.77
1534.	2.71	2.60
1775.	2.46	2.33
1894.	2.37	2.23
2082.	2.23	2.08
2260.	2.15	1.98
2352.	2.15	1.97
2364.	2.14	1.96
2349.	2.12	1.94
2376.	2.15	1.96
2347.	2.13	1.95
2392.	2.15	1.96
2369.	2.14	1.96
2364.	2.14	1.96
2412.	2.11	1.93
2537.	2.09	1.90
2691.	2.02	1.81
2855.	1.98	1.75
3018.	1.98	1.73
3074.	1.97	1.72
3099.	1.95	1.70
3268.	1.89	1.62
3430.	1.89	1.60
3654.	1.87	1.56
3826.	1.90	1.56
3867.	1.88	1.53
4026.	1.89	1.53
4180.	1.89	1.51
4355.	1.92	1.52
4409.	1.92	1.51
4416.	1.92	1.51
4499.	1.91	1.48

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.32	2.12
14.00	2.89

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.80
5.00	2.24
7.00	2.24
8.95	3.17
11.30	2.04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2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-126
SEA FLOOR
PENETRATION (M)
1
5
10
15
2.80
2.24
2.24
3.17
2.04
CONDUCTIVITY

TGRAD STATION V24-127

WATER TEMPERATURES

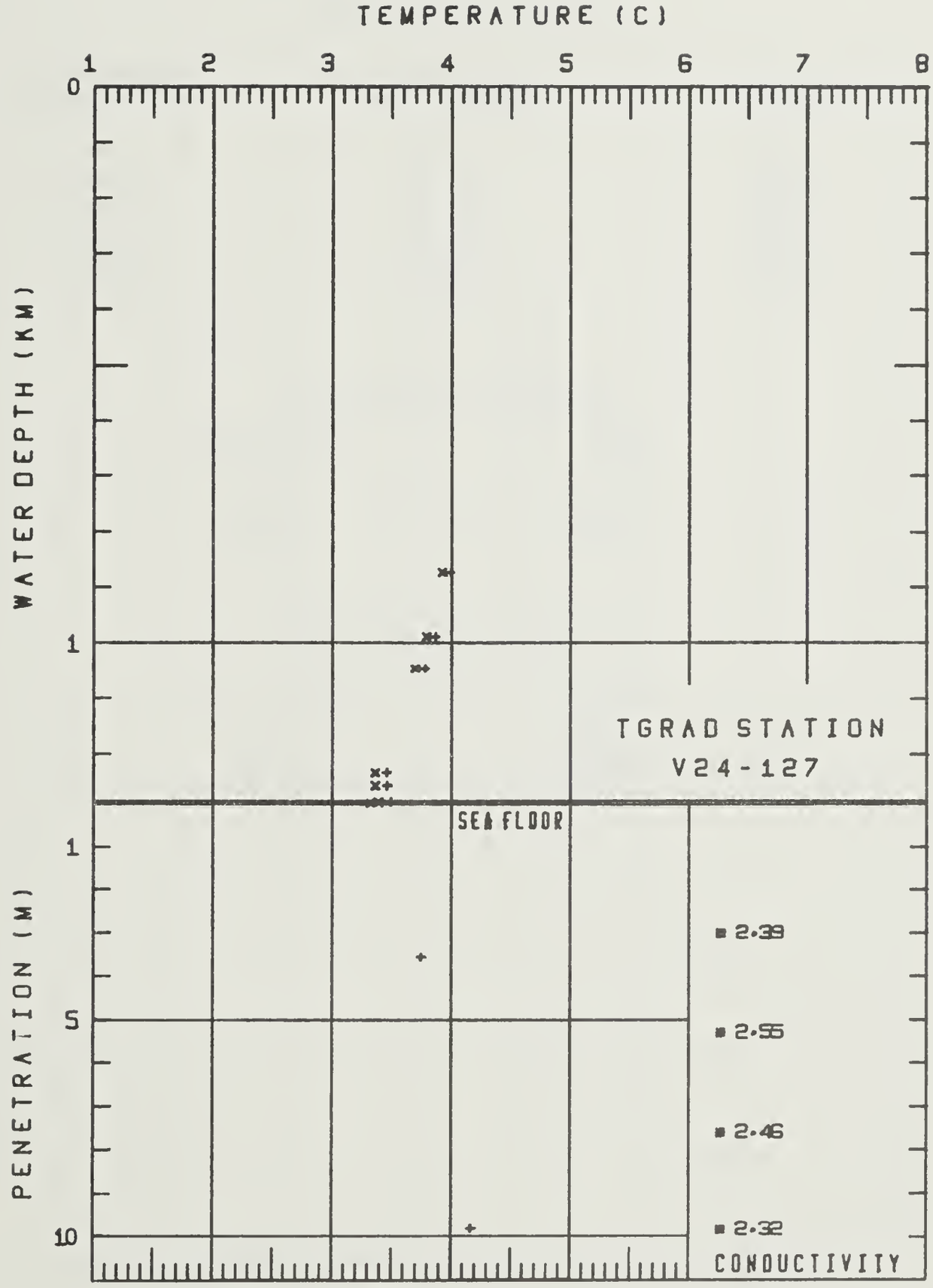
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
872.	3.99	3.92
988.	3.86	3.78
1045.	3.77	3.69
1232.	3.46	3.36
1286.	3.49	3.39
1256.	3.46	3.36
1287.	3.42	3.32

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.56	3.75
9.81	4.17

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.39
5.30	2.55
7.60	2.46
9.85	2.32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2
3
4
5
6
7
8
0
1
WATER DEPTH (KM)
TGRAD STATION
V24-127
SEA FLOOR
1
5
10
PENETRATION (M)
2.39
2.55
2.46
2.32
CONDUCTIVITY

TGRAD STATION V24-128

WATER TEMPERATURES

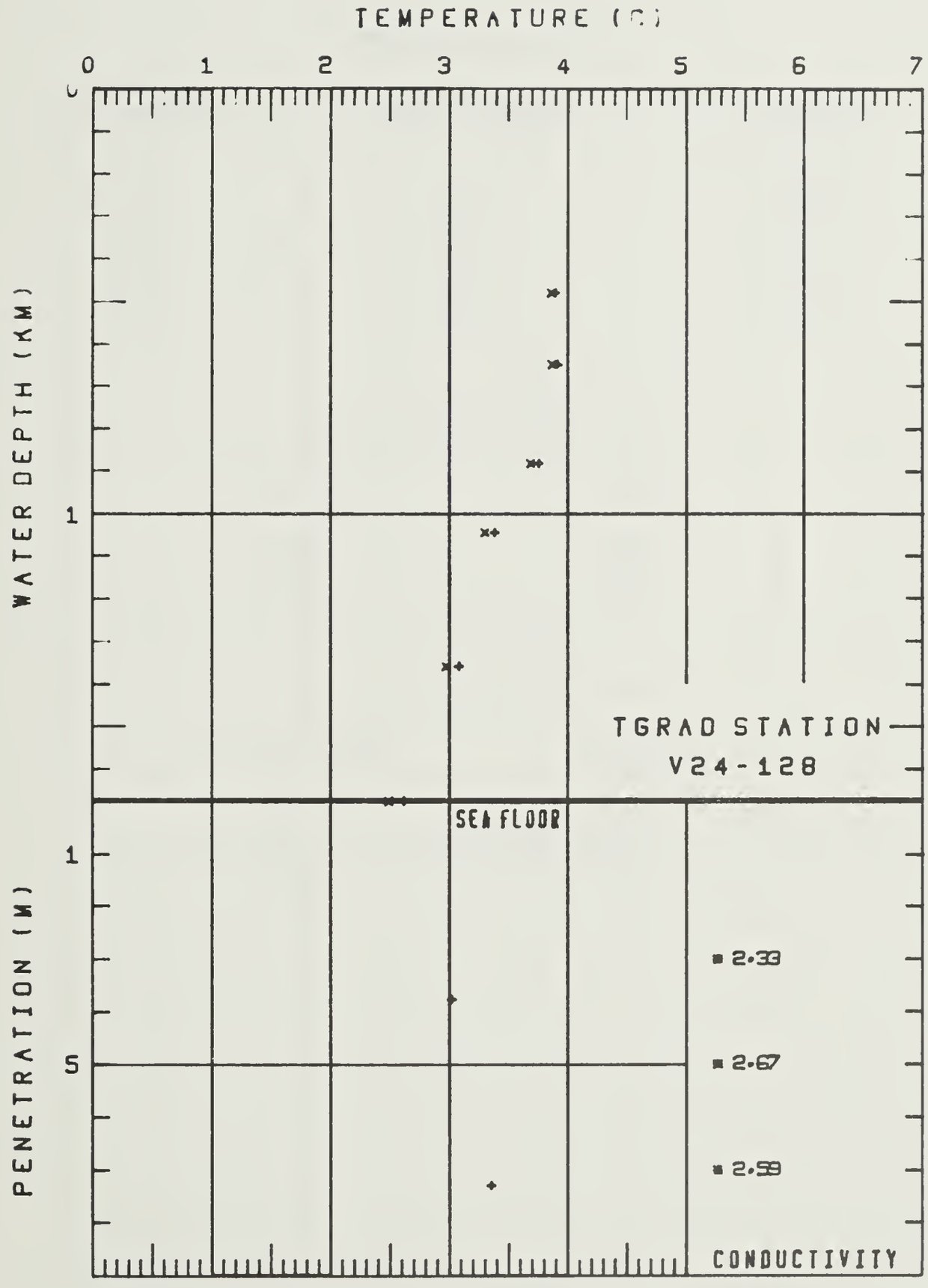
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
481.	3.89	3.86
650.	3.91	3.86
882.	3.75	3.69
1043.	3.38	3.30
1358.	3.08	2.97
1674.	2.61	2.49

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.76	3.02
7.29	3.36

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.33
5.00	2.67
7.00	2.59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1
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3
4
5
6
7
WATER DEPTH (KM)
1
PENETRATION (M)
1
5
TGRAD STATION
V24-128
SEA FLOOR
■ 2.33
■ 2.67
■ 2.59
CONDUCTIVITY

TGRAD STATION V24-129

WATER TEMPERATURES

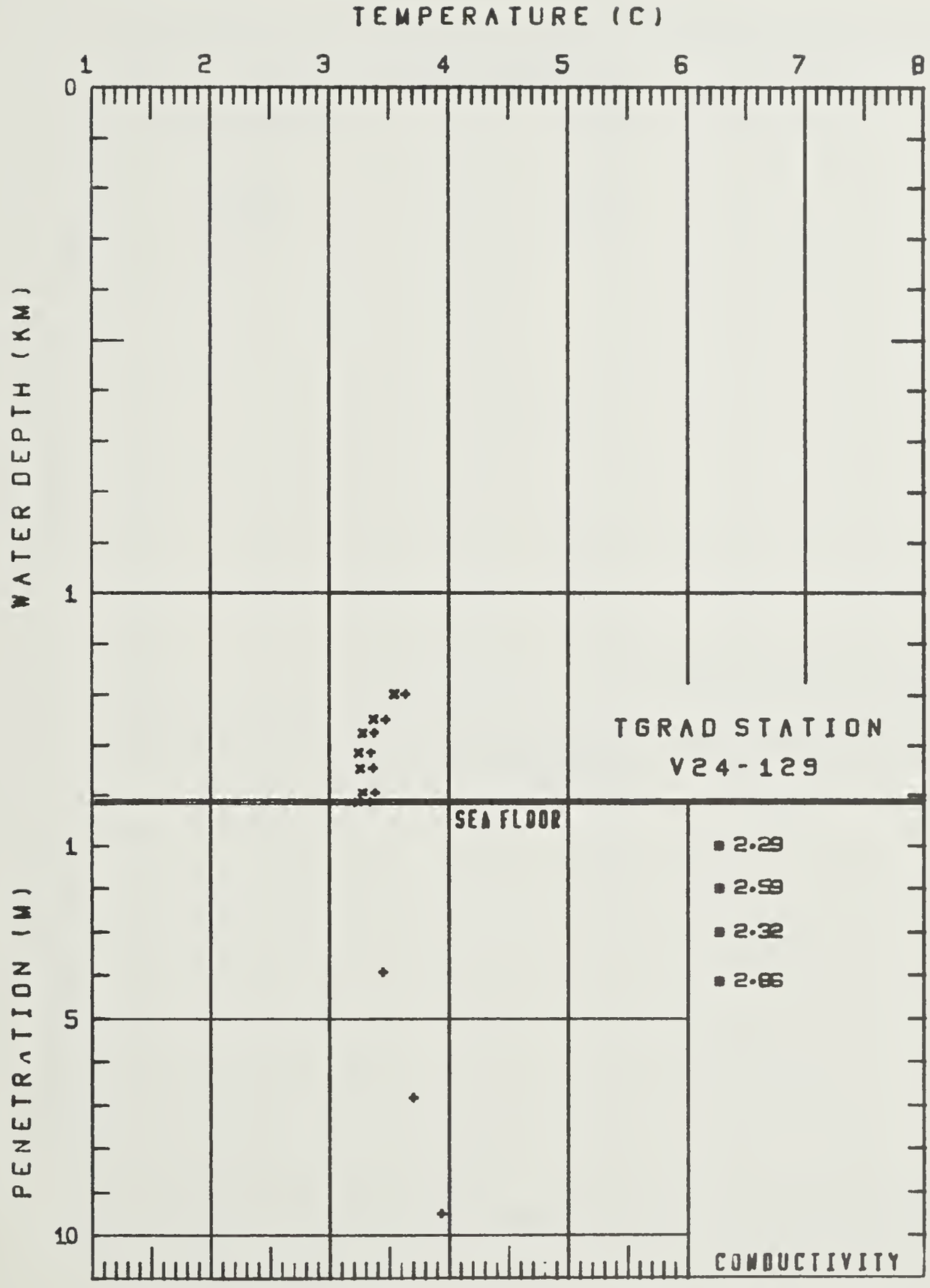
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1199.	3.63	3.54
1249.	3.47	3.37
1275.	3.38	3.28
1315.	3.34	3.24
1346.	3.36	3.25
1392.	3.38	3.27
1412.	3.34	3.23

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.92	3.45
6.82	3.70
9.50	3.94

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.29
2.00	2.59
3.00	2.32
4.15	2.86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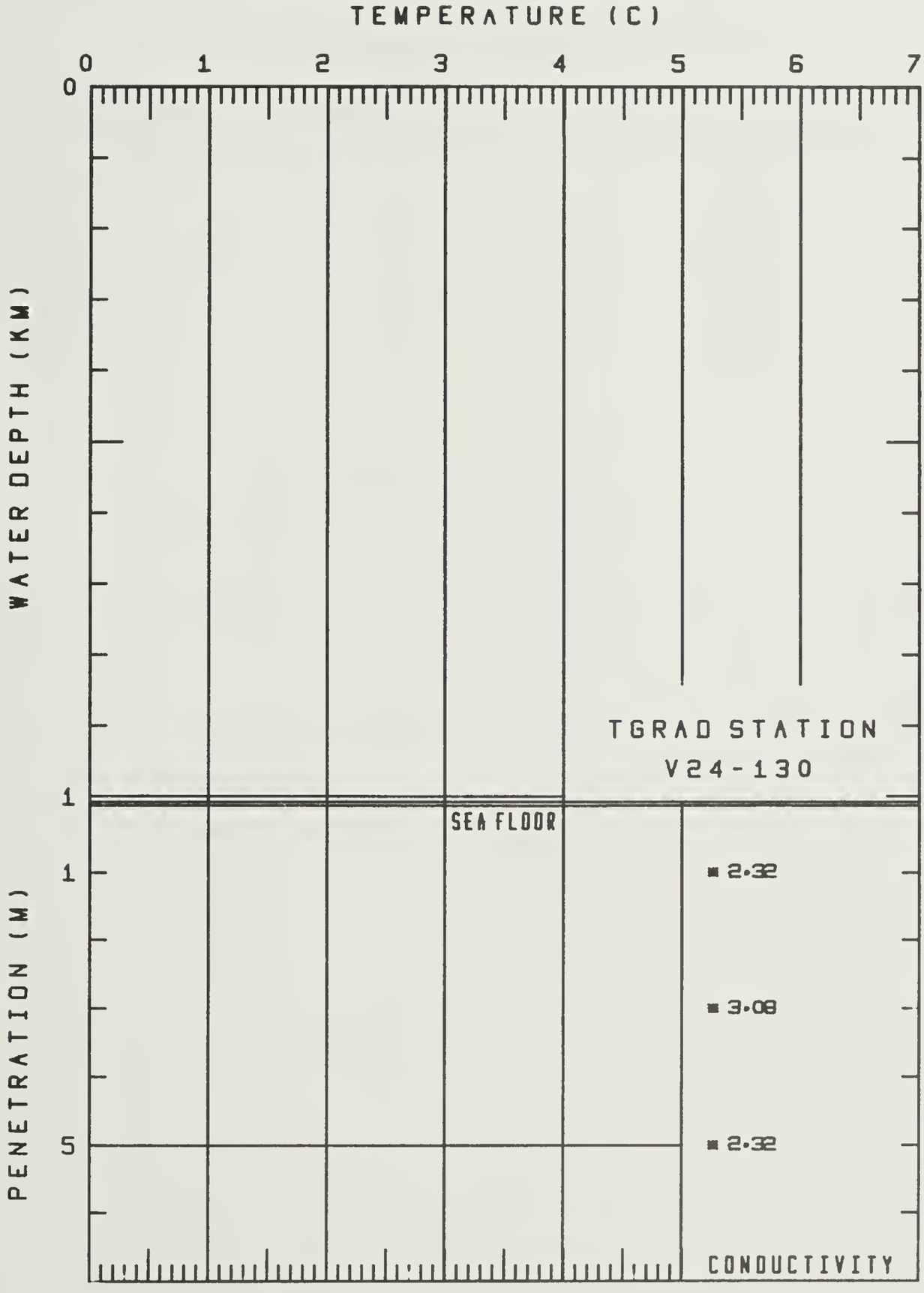
2
3
4
5
6
7
8
0
1
WATER DEPTH (KM)
TGRAD STATION
V24-129
SEA FLOOR
1
5
10
PENETRATION (M)
2.29
2.59
2.32
2.86
CONDUCTIVITY

TGRAD STATIONV24-130

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.32
3.00	3.08
5.00	2.32


TEMPERATURE (C)
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1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
TGRAD STATION
V24-130
SEA FLOOR
PENETRATION (M)
1
5
■ 2.32
■ 3.08
■ 2.32
CONDUCTIVITY

TGRAD STATION V24-131

WATER TEMPERATURES

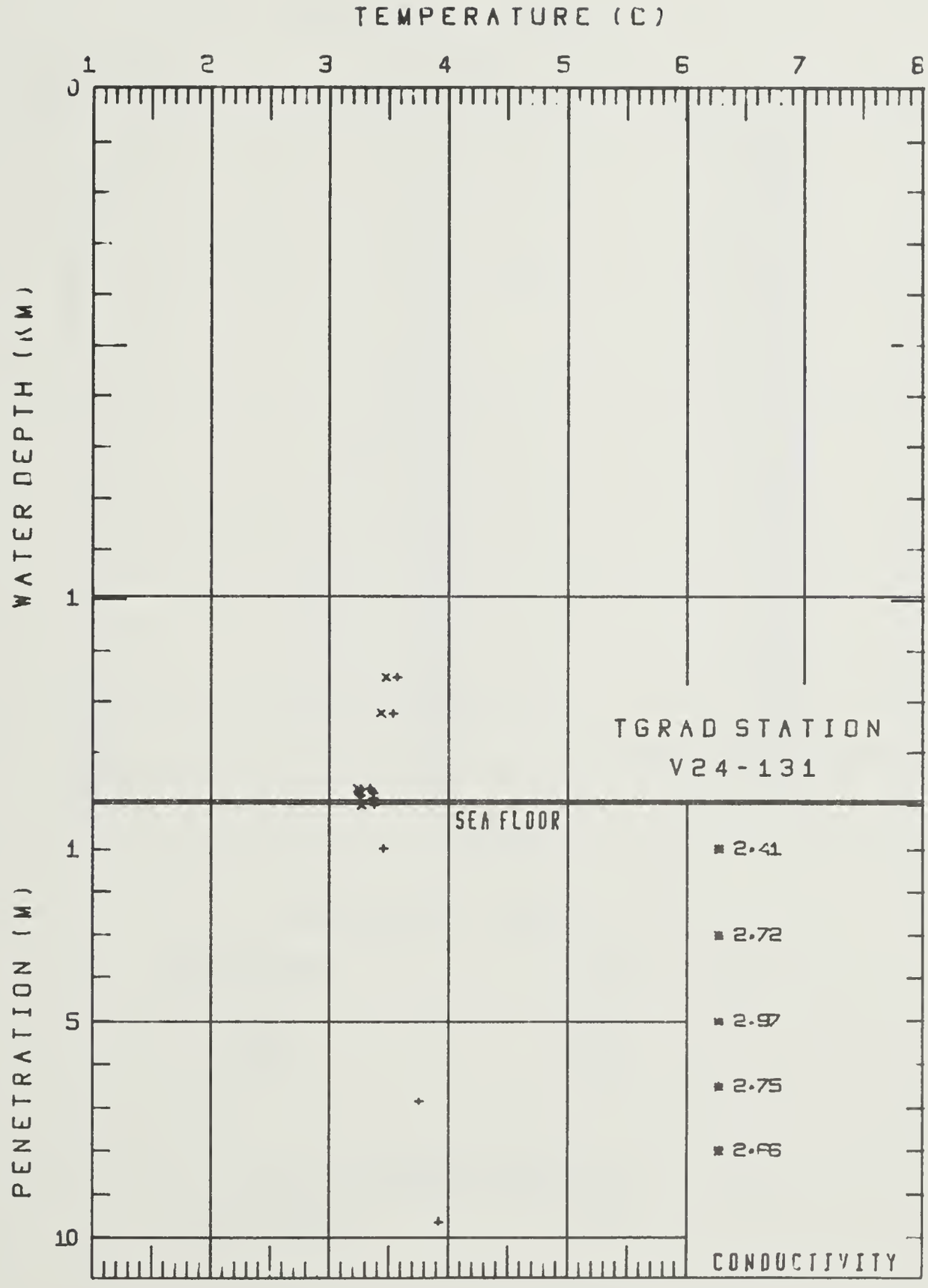
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1161.	3.77	3.68
1151.	3.56	3.47
1223.	3.52	3.43
1379.	3.36	3.25
1390.	3.36	3.25
1374.	3.34	3.24
1402.	3.37	3.26
1369.	3.33	3.23

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.01	3.44
6.84	3.75
9.62	3.91

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.41
3.00	2.72
5.00	2.97
6.50	2.75
8.00	2.66


TEMPERATURE (C)
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2
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4
5
6
7
8
0
1
WATER DEPTH (KM)
TGRAD STATION
V24-131
SEA FLOOR
1
5
10
PENETRATION (M)
2.41
2.72
2.97
2.75
2.86
CONDUCTIVITY

TGRAD STATION V24-132

WATER TEMPERATURES

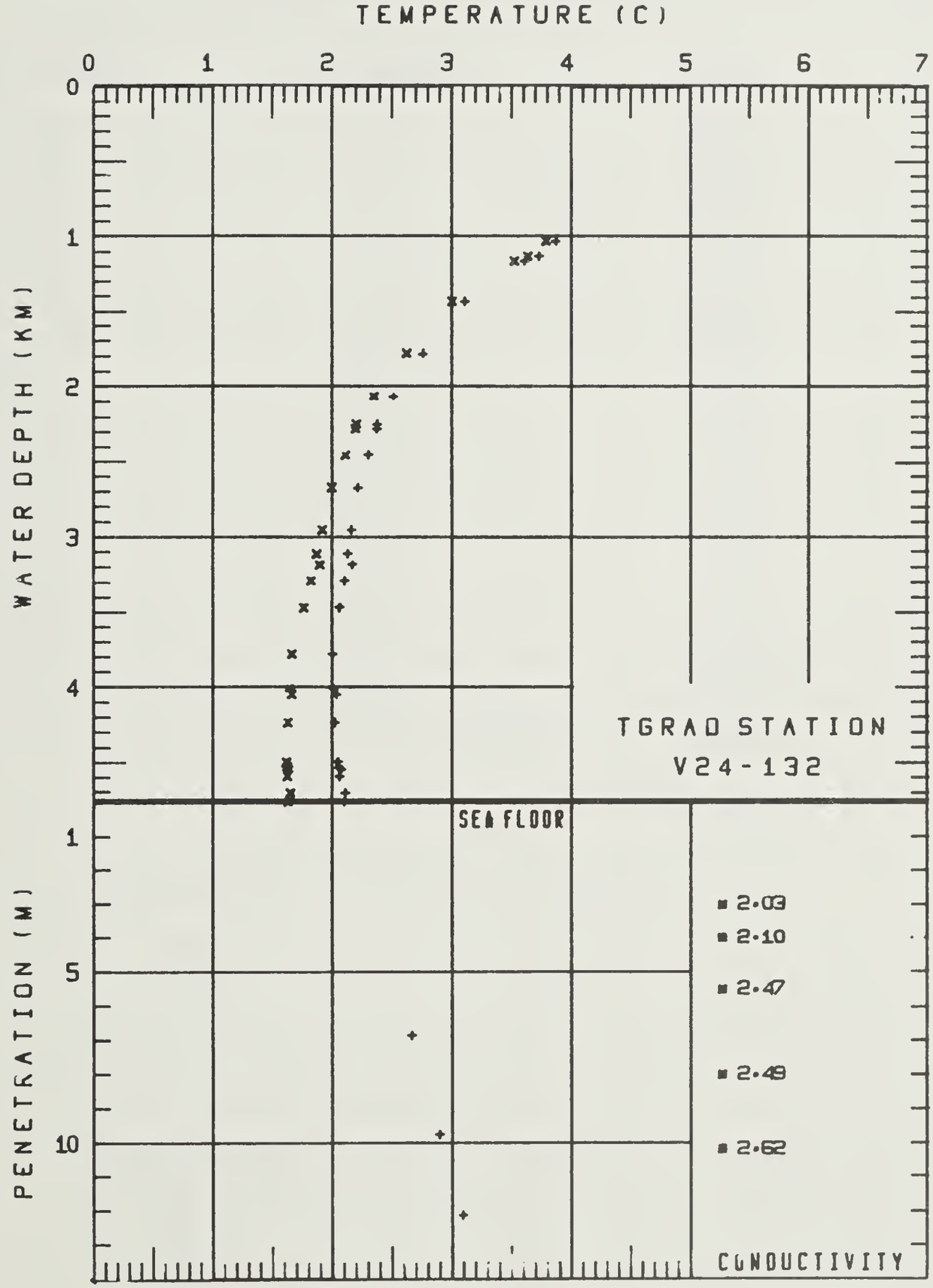
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1032.	3.87	3.78
1130.	3.72	3.63
1163.	3.61	3.52
1433.	3.11	3.00
1777.	2.75	2.62
2065.	2.51	2.34
2279.	2.37	2.19
2250.	2.37	2.20
2453.	2.30	2.11
2673.	2.21	2.00
2951.	2.16	1.91
3113.	2.13	1.87
3184.	2.17	1.89
3292.	2.10	1.82
3469.	2.06	1.76
3776.	2.00	1.66
4047.	2.03	1.66
4004.	2.01	1.64
4233.	2.02	1.63
4499.	2.05	1.61
4526.	2.05	1.62
4496.	2.04	1.61
4543.	2.07	1.64
4591.	2.06	1.62
4702.	2.11	1.65
4761.	2.10	1.63

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
6.86	2.66
9.76	2.89
12.14	3.09

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.03
4.00	2.10
5.50	2.47
8.00	2.49
10.20	2.62


TEMPERATURE (C)
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1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-132
SEA FLOOR
PENETRATION (M)
1
5
10
2.03
2.10
2.47
2.49
2.62
CONDUCTIVITY

TGRAD STATION V24-133

WATER TEMPERATURES

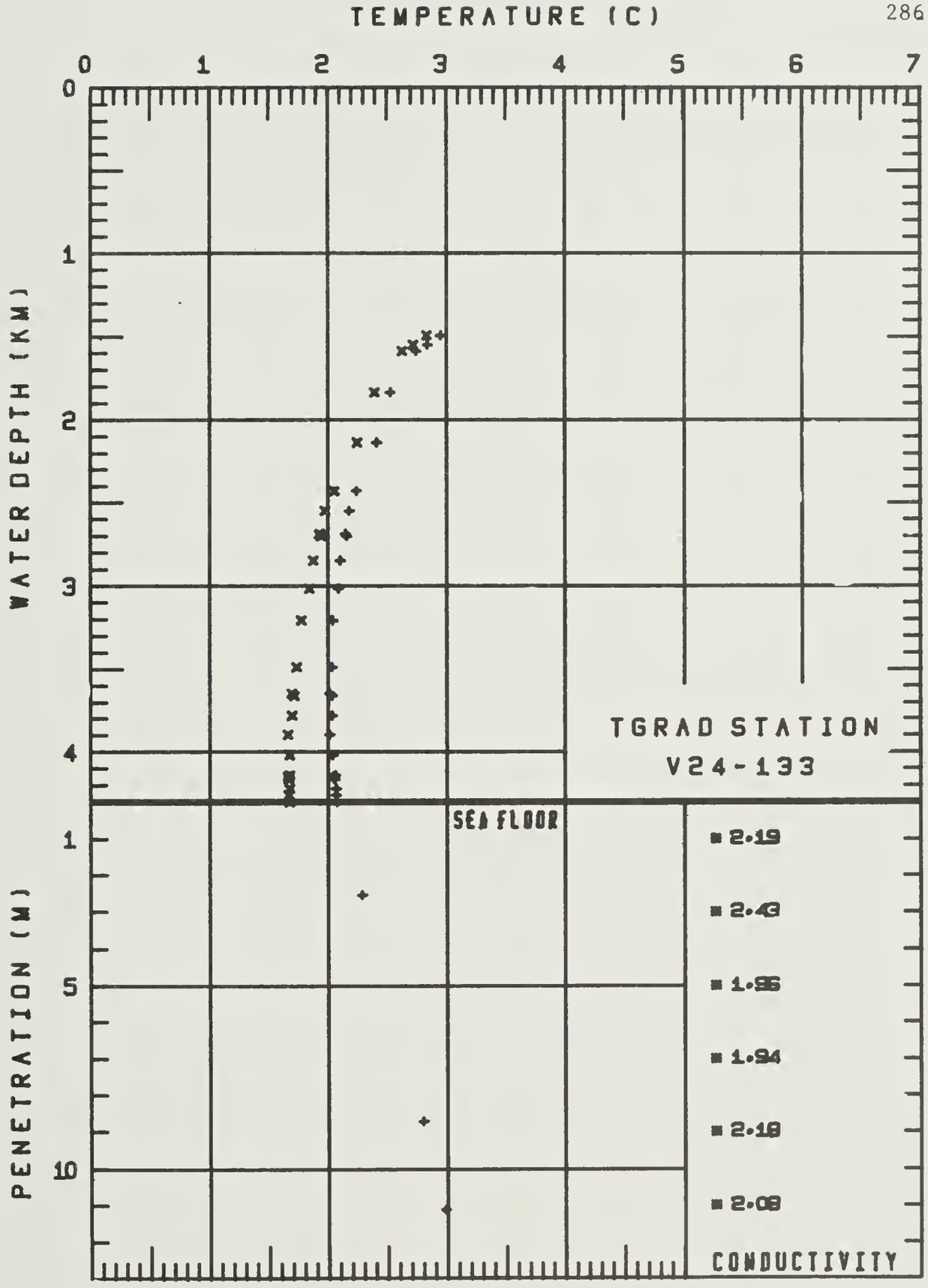
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1489.	2.95	2.84
1549.	2.84	2.72
1585.	2.74	2.63
1835.	2.53	2.39
2136.	2.41	2.25
2427.	2.24	2.05
2548.	2.18	1.98
2685.	2.14	1.93
2699.	2.16	1.94
2845.	2.11	1.88
3015.	2.09	1.84
3204.	2.04	1.77
3486.	2.03	1.73
3644.	2.02	1.70
3658.	2.03	1.71
3781.	2.03	1.69
3893.	2.01	1.66
4019.	2.04	1.67
4138.	2.06	1.67
4160.	2.05	1.67
4143.	2.04	1.66
4218.	2.07	1.67
4259.	2.07	1.67
4299.	2.08	1.67

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.51	2.29
8.71	2.80
11.12	2.98

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.19
3.00	2.43
5.00	1.96
7.00	1.94
9.00	2.18
11.00	2.08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1
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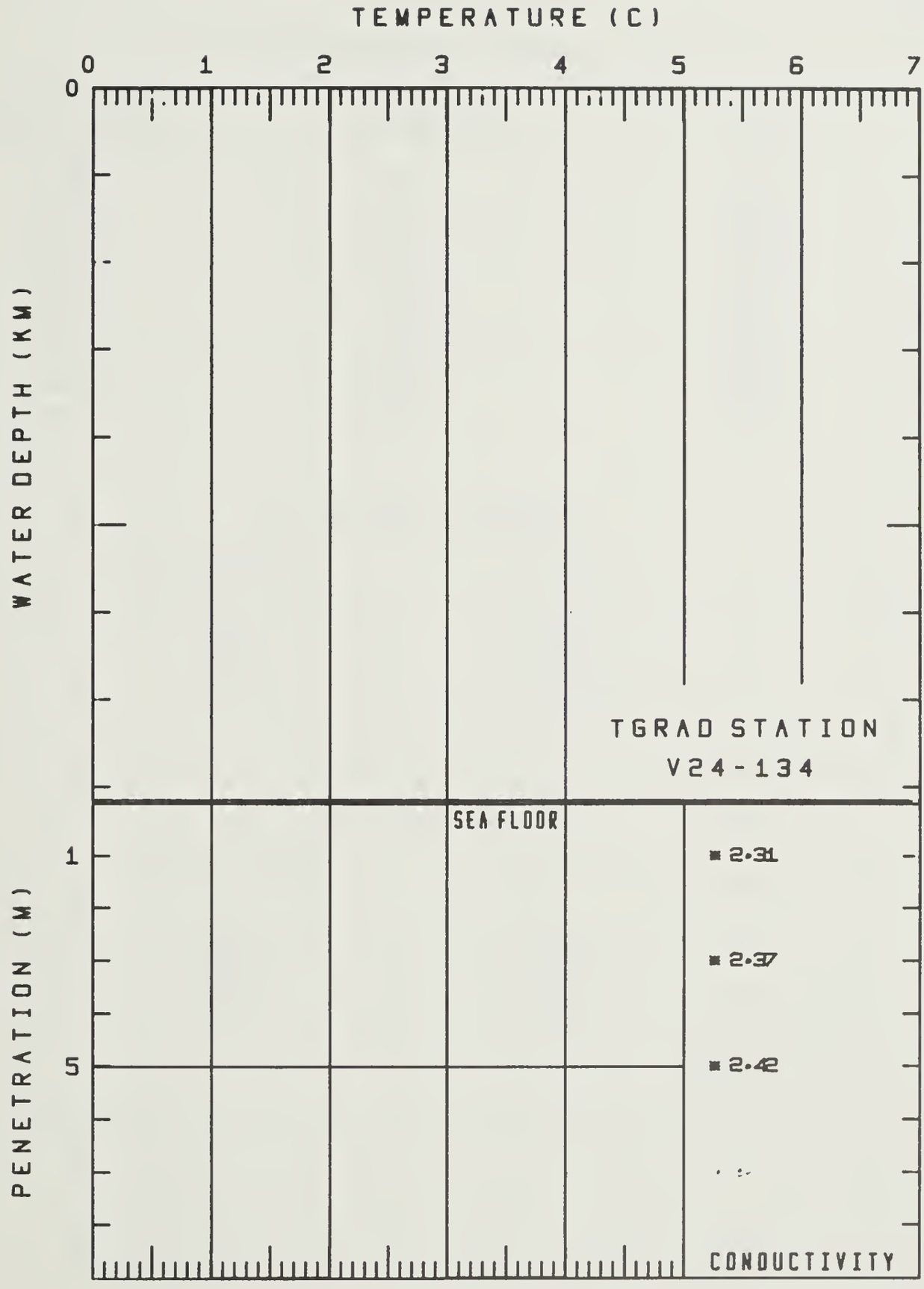
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-133
SEA FLOOR
PENETRATION (M)
1
5
10
= 2.19
= 2.43
= 1.86
= 1.94
= 2.18
= 2.08
CONDUCTIVITY

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.37
5.00	2.42
7.00	2.50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1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
0
1
5
TGRAD STATION
V24-134
SEA FLOOR
= 2.31
= 2.37
= 2.42
CONDUCTIVITY

TGRAD STATION V24-135

WATER TEMPERATURES

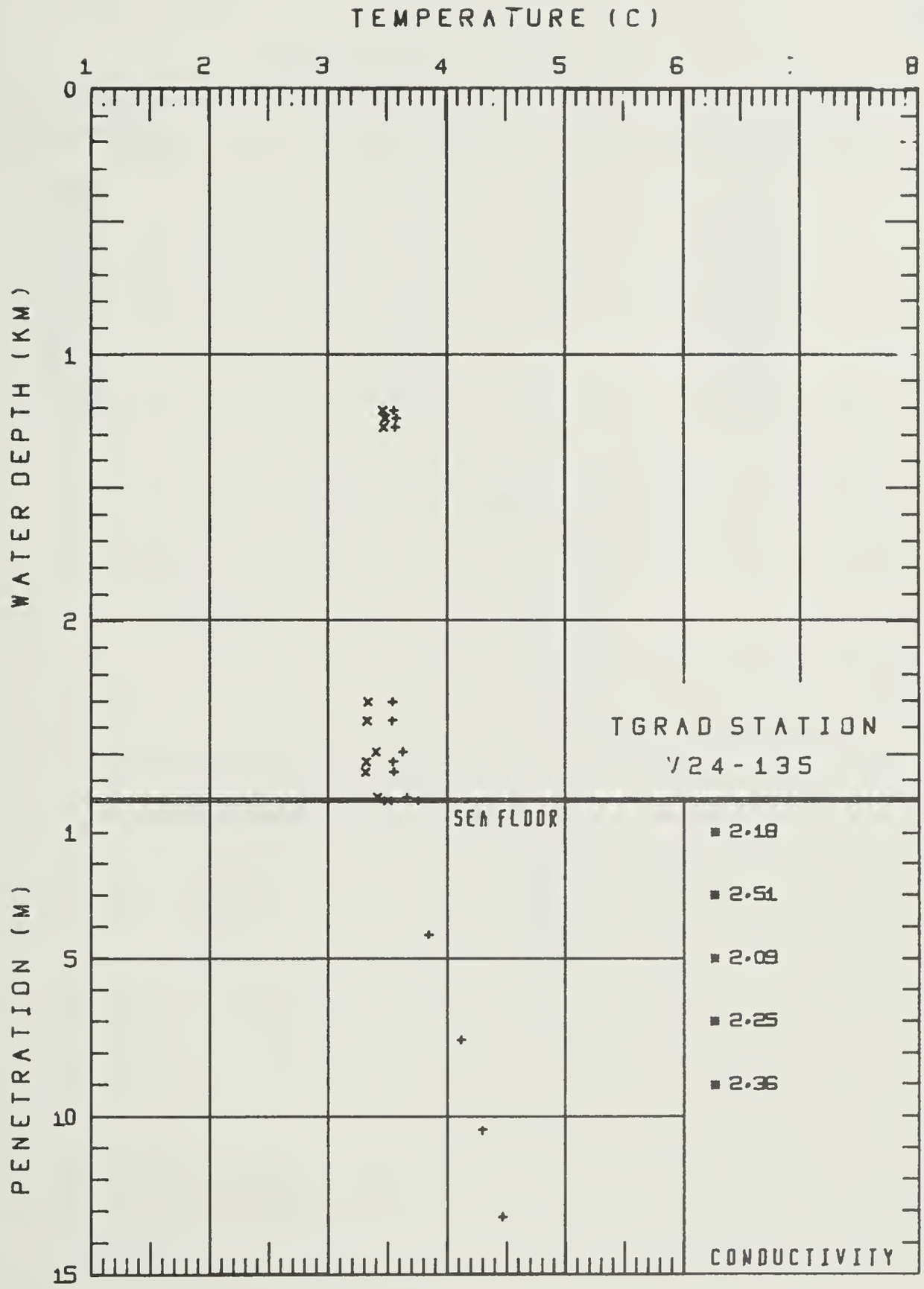
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
2673.	3.75	3.50
2658.	3.66	3.41
2565.	3.55	3.31
2526.	3.55	3.32
2488.	3.63	3.40
2372.	3.54	3.32
2302.	3.54	3.34
1272.	3.57	3.47
1208.	3.55	3.46
1240.	3.57	3.48

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.26	3.84
7.58	4.12
10.45	4.30
13.19	4.47

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.18
3.00	2.51
5.00	2.09
7.00	2.25
9.00	2.36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3
4
5
6
8
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-135
PENETRATION (M)
1
5
10
15
SEA FLOOR
■ 2.18
■ 2.51
■ 2.09
■ 2.25
■ 2.36
CONDUCTIVITY

TGRAD STATION V24-136

WATER TEMPERATURES

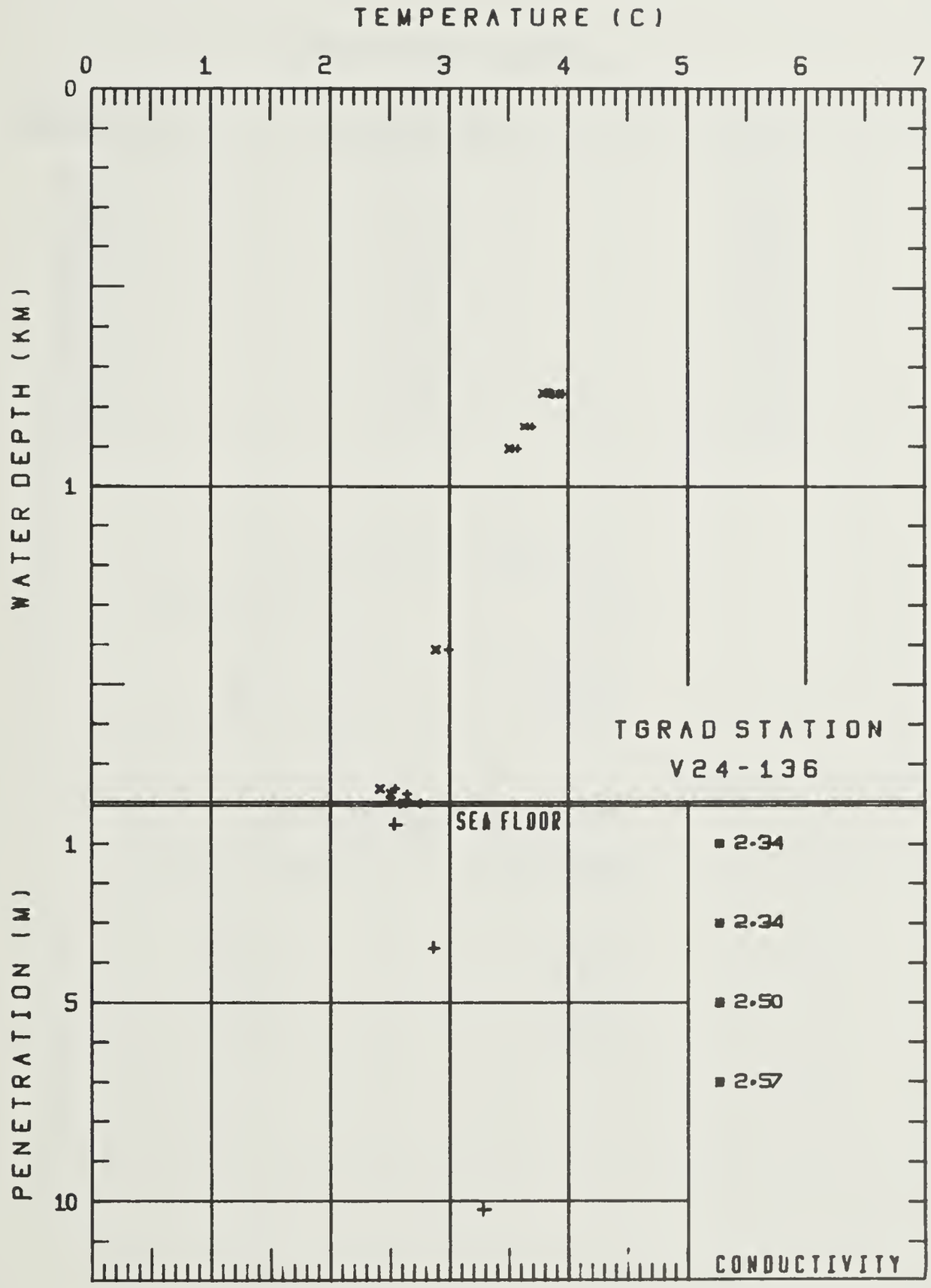
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
767.	3.94	3.88
765.	3.84	3.78
849.	3.69	3.63
905.	3.57	3.50
1411.	2.98	2.88
1799.	2.74	2.60
1791.	2.64	2.50
1774.	2.64	2.50
1762.	2.54	2.41

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.53	2.55
3.66	2.88
10.23	3.30

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.34
3.00	2.34
5.00	2.50
7.00	2.57


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
PENETRATION (M)
1
5
10
TGRAD STATION
V24-136
SEA FLOOR
2.34
2.34
2.50
2.57
CONDUCTIVITY

TGRAD STATION V24-137

WATER TEMPERATURES

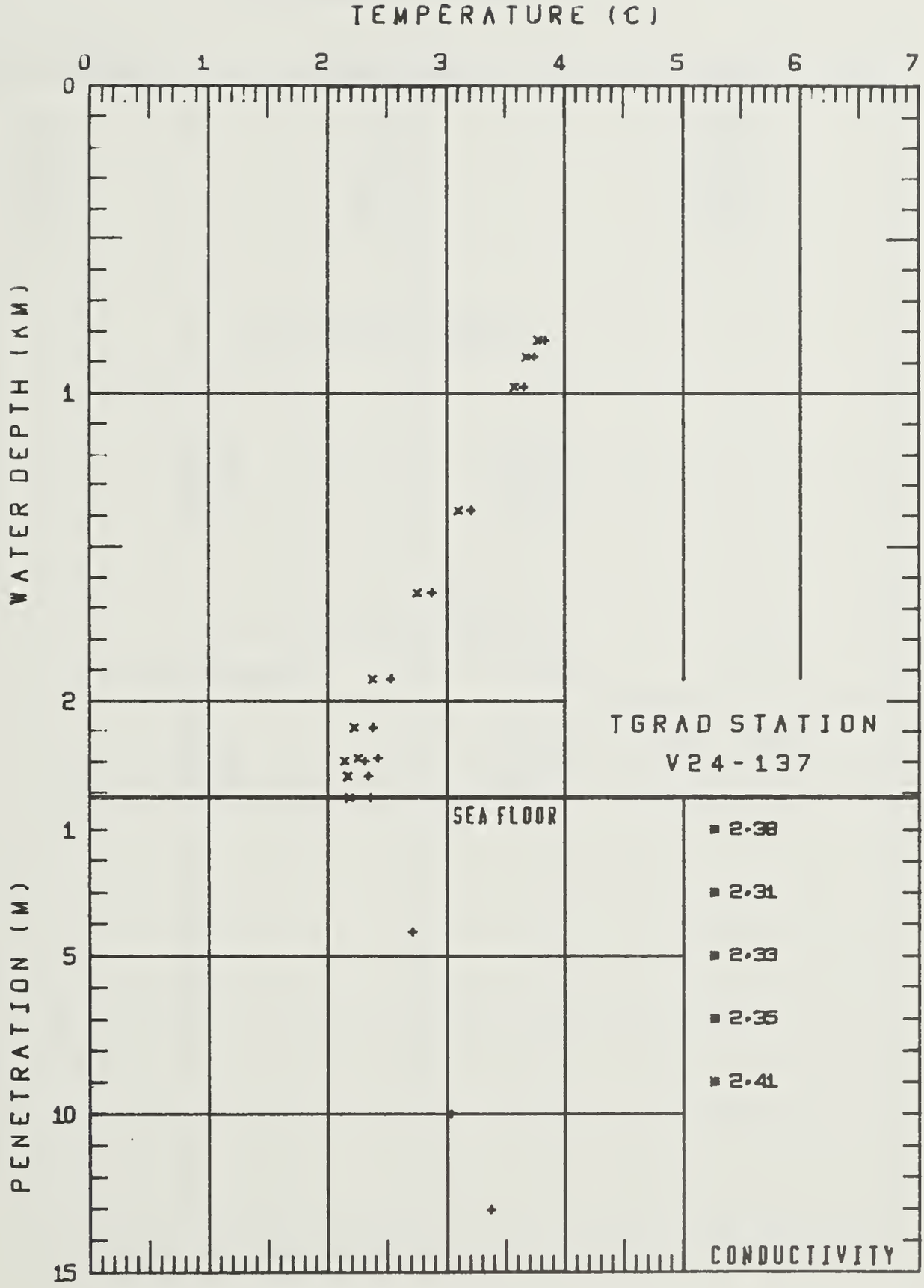
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
827.	3.84	3.77
883.	3.74	3.67
981.	3.65	3.58
1382.	3.21	3.10
1648.	2.88	2.75
1929.	2.52	2.38
2186.	2.42	2.25
2085.	2.38	2.22
2196.	2.31	2.14
2246.	2.34	2.16
2315.	2.36	2.18

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.26	2.71
10.00	3.04
13.02	3.37

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.38
3.00	2.31
5.00	2.33
7.00	2.35
9.00	2.41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0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
PENETRATION (M)
1
5
10
15
TGRAD STATION
V24-137
SEA FLOOR
2·38
2·31
2·33
2·35
2·41
CONDUCTIVITY

TGRAD STATION V24-138

WATER TEMPERATURES

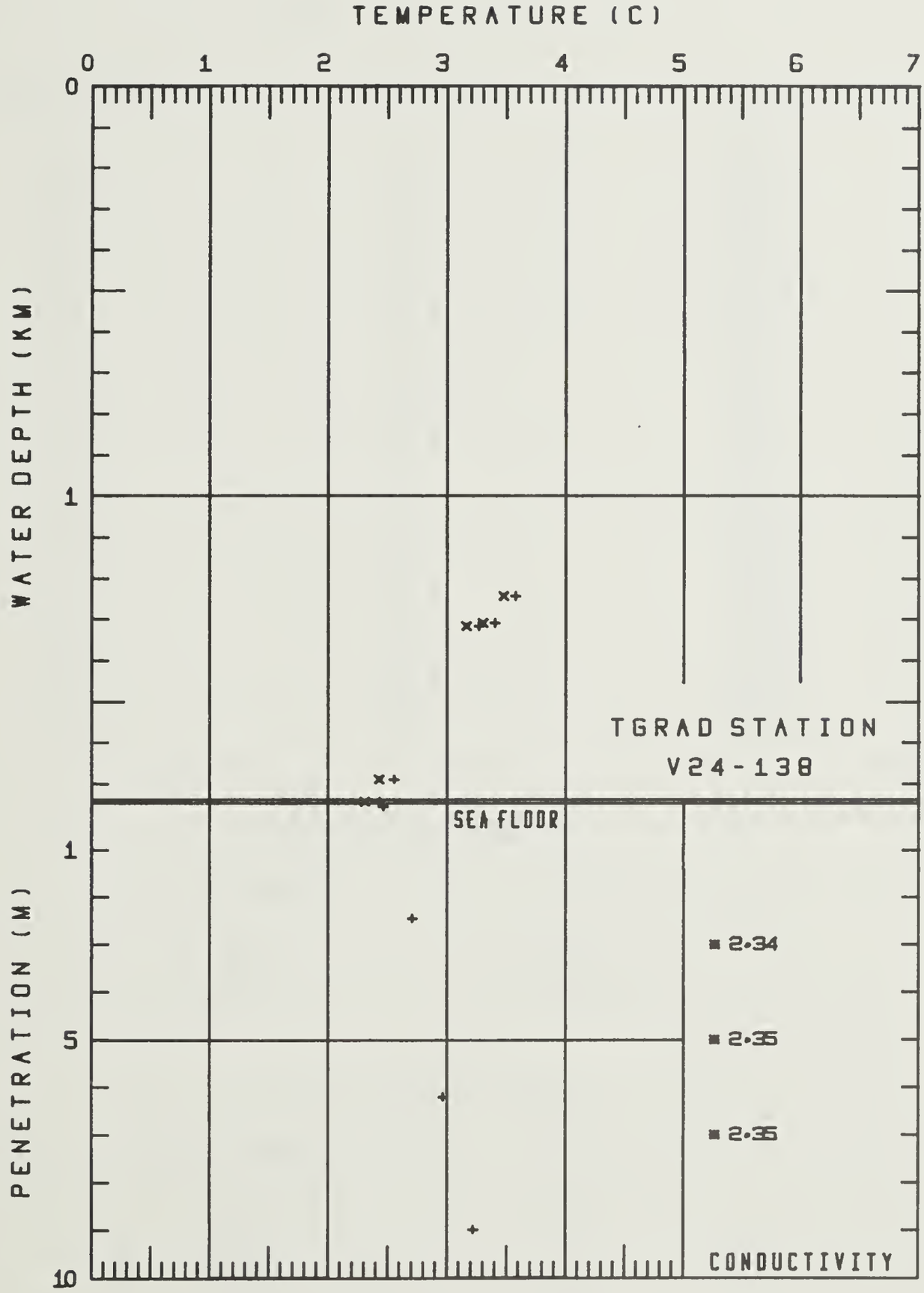
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1242.	3.57	3.48
1307.	3.40	3.30
1315.	3.26	3.16
1690.	2.55	2.43
1743.	2.44	2.31

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.10	2.46
2.45	2.71
6.20	2.97
8.99	3.22

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
3.00	2.34
5.00	2.35
7.00	2.35


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
PENETRATION (M)
1
5
10
TGRAD STATION
V24-138
SEA FLOOR
= 2·34
= 2·35
= 2·35
CONDUCTIVITY

TGRAD STATION V24-139

WATER TEMPERATURES

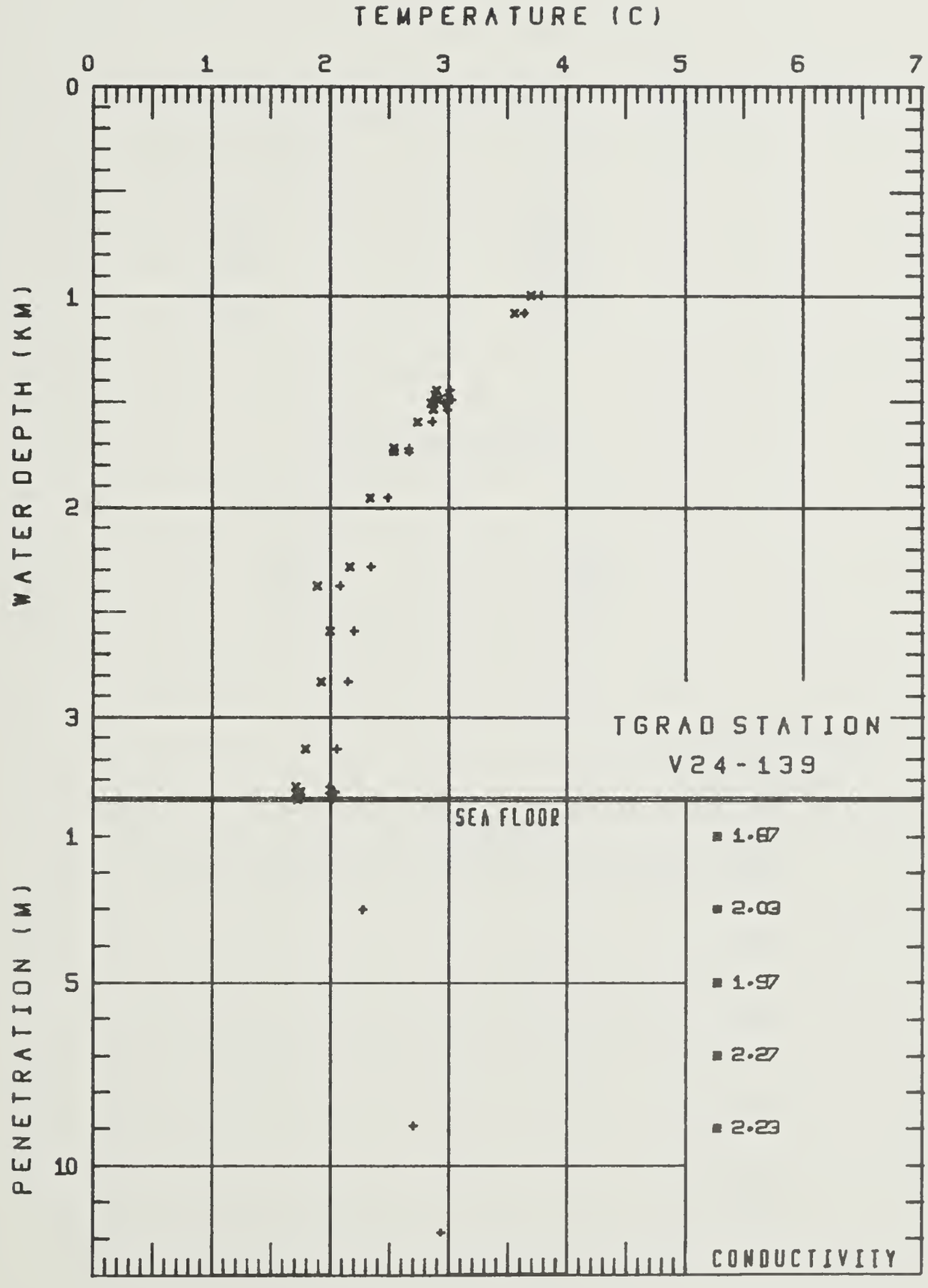
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
994.	3.77	3.69
1079.	3.63	3.55
1442.	3.00	2.90
1533.	2.98	2.87
1505.	2.96	2.85
1491.	3.02	2.91
1465.	2.99	2.88
1595.	2.85	2.73
1737.	2.66	2.53
1719.	2.66	2.53
1958.	2.48	2.33
2283.	2.34	2.16
2374.	2.07	1.89
2589.	2.20	2.00
2829.	2.15	1.92
3151.	2.05	1.79
3332.	1.99	1.71
3355.	2.03	1.75
3386.	2.01	1.72
3371.	2.01	1.72
3360.	2.00	1.71
3363.	2.00	1.71
3393.	2.01	1.72

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.01	2.27
8.93	2.70
11.84	2.93

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.87
3.00	2.03
5.00	1.97
7.00	2.27
9.00	2.23


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
PENETRATION (M)
1
5
10
SEA FLOOR
TGRAD STATION
V24-139
1.87
2.03
1.97
2.27
2.23
CONDUCTIVITY

TGRAD STATIONV24-140

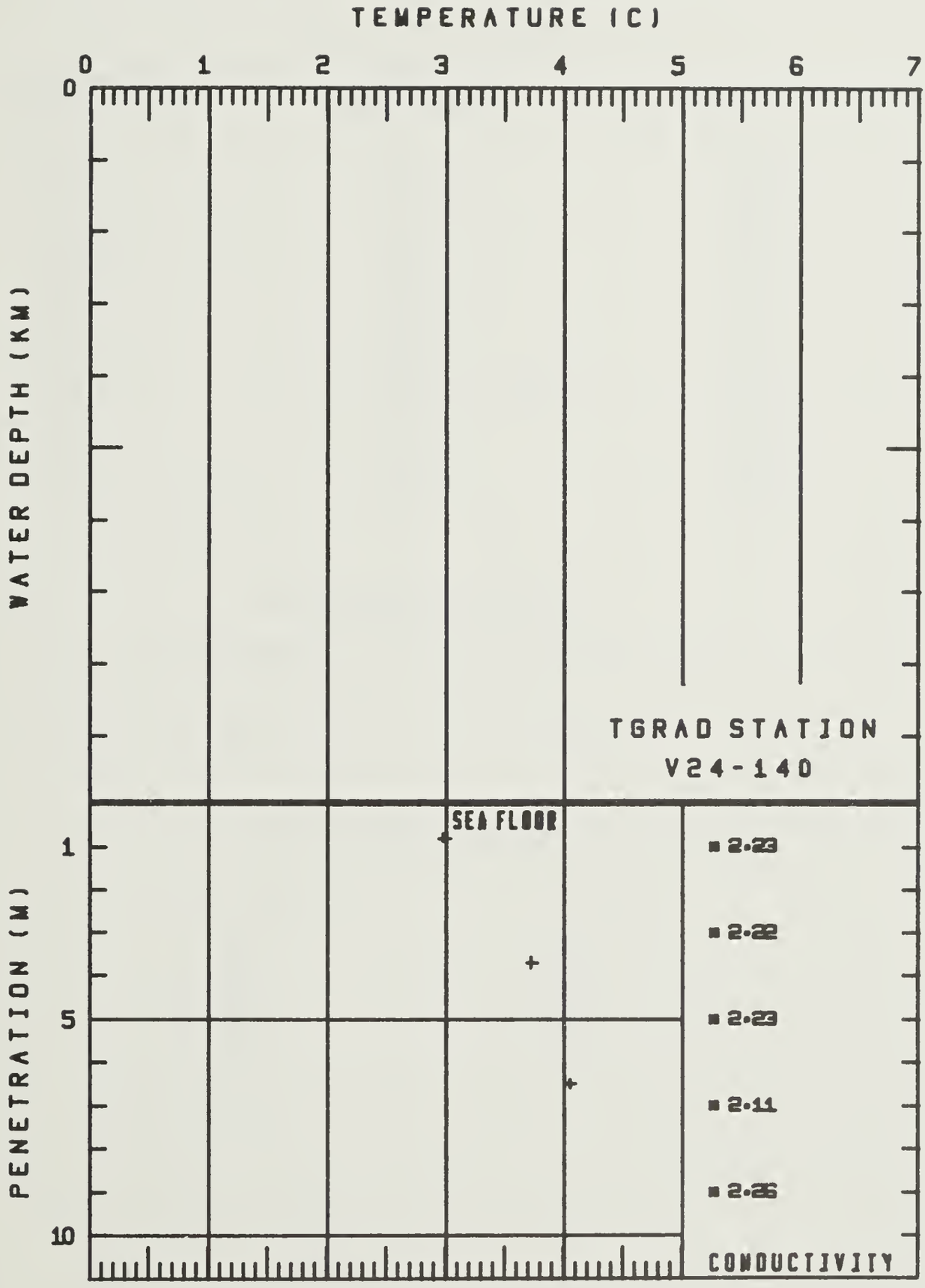
SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.23
3.00	2.22
5.00	2.23
7.00	2.11
9.00	2.26

Sediment Temperatures

Depth	Temperature
89	2.97
374	3.72
650	4.03

Water temperature assumed from preceding station.


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
0
1
5
10
TGRAD STATION
V24-140
SEA FLOOR
2.23
2.22
2.23
2.11
2.26
CONDUCTIVITY

TGRAD STATION V24-141

WATER TEMPERATURES

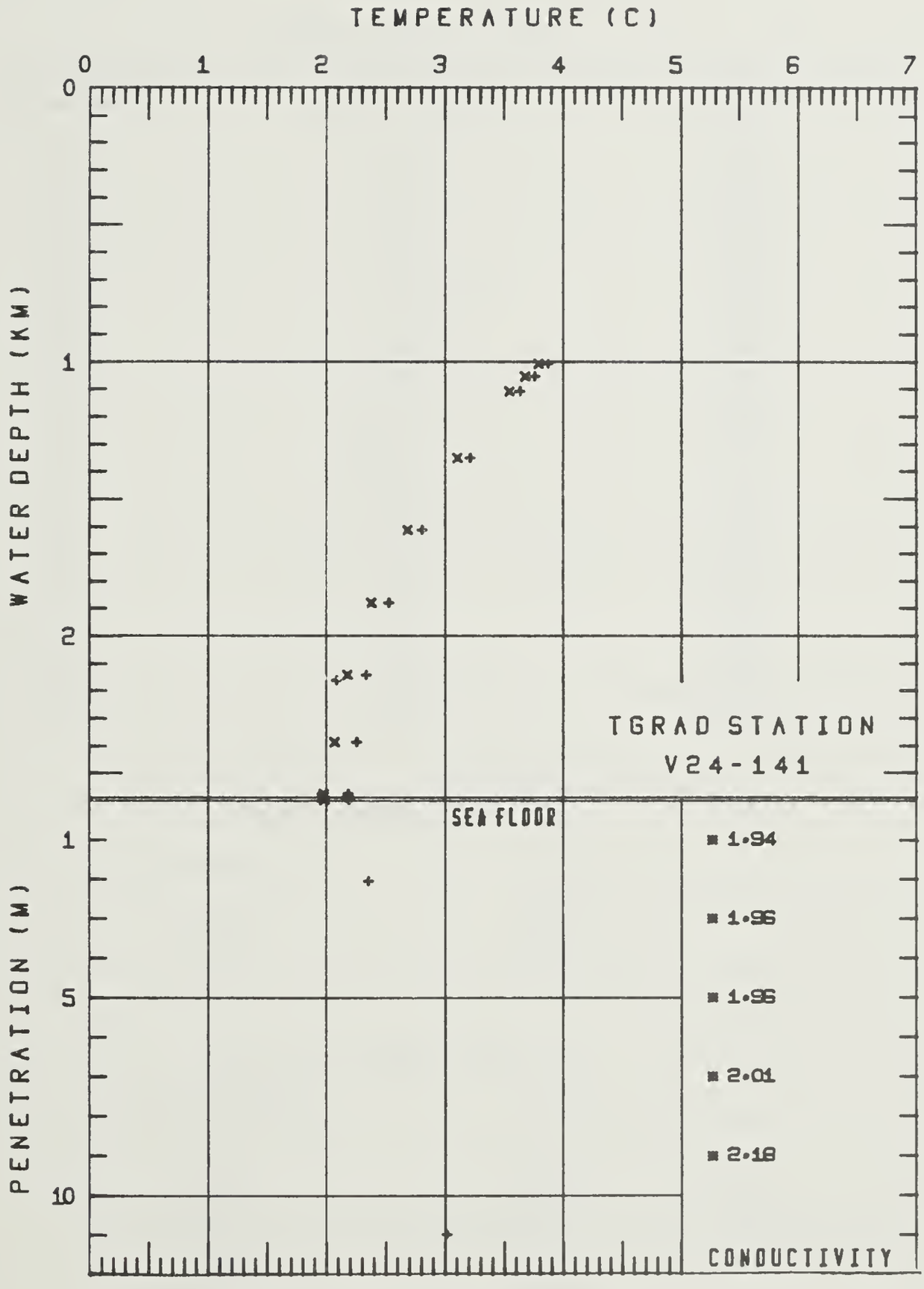
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1007.	3.86	3.79
1053.	3.76	3.67
1109.	3.63	3.54
1351.	3.21	3.10
1614.	2.80	2.68
1878.	2.52	2.38
2161.	2.08	1.92
2142.	2.33	2.17
2385.	2.26	2.07
2587.	2.18	1.97
2597.	2.19	1.98
2587.	2.16	1.96
2575.	2.18	1.97
2587.	2.17	1.97

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.06	2.35
10.97	3.01

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.94
3.00	1.96
5.00	1.96
7.00	2.01
9.00	2.18


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
PENETRATION (M)
1
5
10
TGRAD STATION
V24-141
SEA FLOOR
■ 1.94
■ 1.96
■ 1.96
■ 2.01
■ 2.18
CONDUCTIVITY

TGRAD STATION V24-142

WATER TEMPERATURES

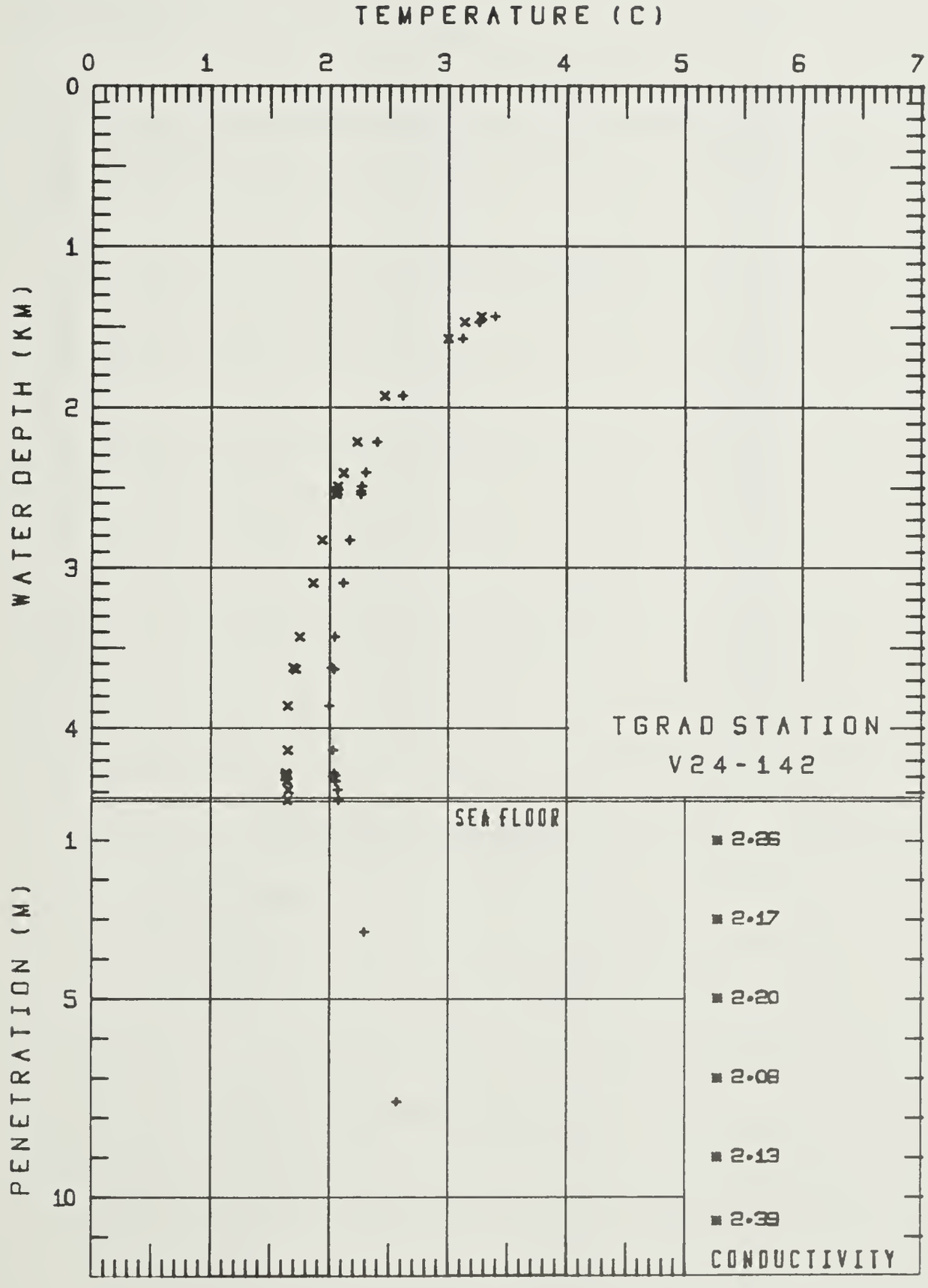
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1432.	3.38	3.26
1470.	3.25	3.13
1574.	3.11	2.98
1927.	2.60	2.45
2215.	2.39	2.22
2406.	2.29	2.10
2489.	2.26	2.06
2519.	2.25	2.05
2541.	2.25	2.05
2830.	2.16	1.93
3096.	2.11	1.85
3430.	2.03	1.74
3621.	2.00	1.69
3631.	2.03	1.71
3859.	1.99	1.64
4135.	2.02	1.64
4298.	2.04	1.64
4303.	2.02	1.62
4281.	2.03	1.63
4331.	2.04	1.63
4385.	2.06	1.65
4449.	2.06	1.64

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.32	2.29
7.60	2.56

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.26
3.00	2.17
5.00	2.20
7.00	2.08
9.00	2.13
10.60	2.39


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-142
SEA FLOOR
PENETRATION (M)
1
5
10
2.26
2.17
2.20
2.08
2.13
2.39
CONDUCTIVITY

TGRAD STATION V24-143

WATER TEMPERATURES

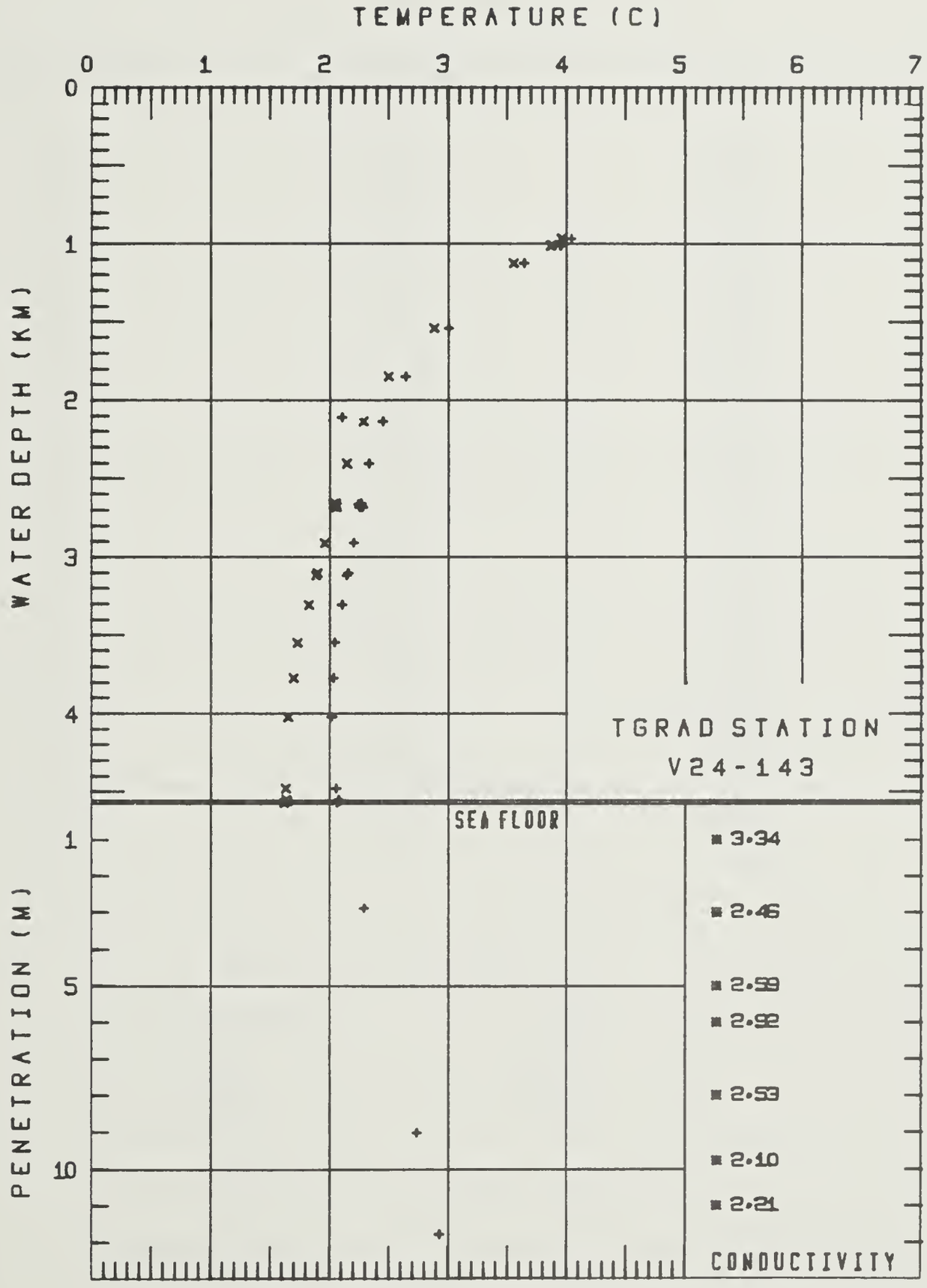
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
966.	4.03	3.95
1011.	3.94	3.86
1007.	3.95	3.87
1120.	3.63	3.55
1537.	3.00	2.88
1849.	2.64	2.49
2108.	2.09	1.94
2134.	2.45	2.28
2403.	2.33	2.14
2673.	2.25	2.04
2666.	2.26	2.05
2660.	2.24	2.03
2679.	2.25	2.03
2678.	2.27	2.05
2652.	2.26	2.04
2909.	2.20	1.96
3103.	2.16	1.90
3117.	2.14	1.88
3306.	2.10	1.82
3544.	2.04	1.73
3773.	2.03	1.69
4020.	2.02	1.65
4477.	2.05	1.63
4569.	2.06	1.62
4556.	2.08	1.64
4547.	2.07	1.63

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.89	2.29
9.01	2.73
11.78	2.92

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	3.34
3.00	2.46
5.00	2.59
6.00	2.92
8.00	2.53
9.80	2.10
11.00	2.21


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-143
SEA FLOOR
3.34
2.46
2.59
2.92
2.53
2.10
2.21
CONDUCTIVITY

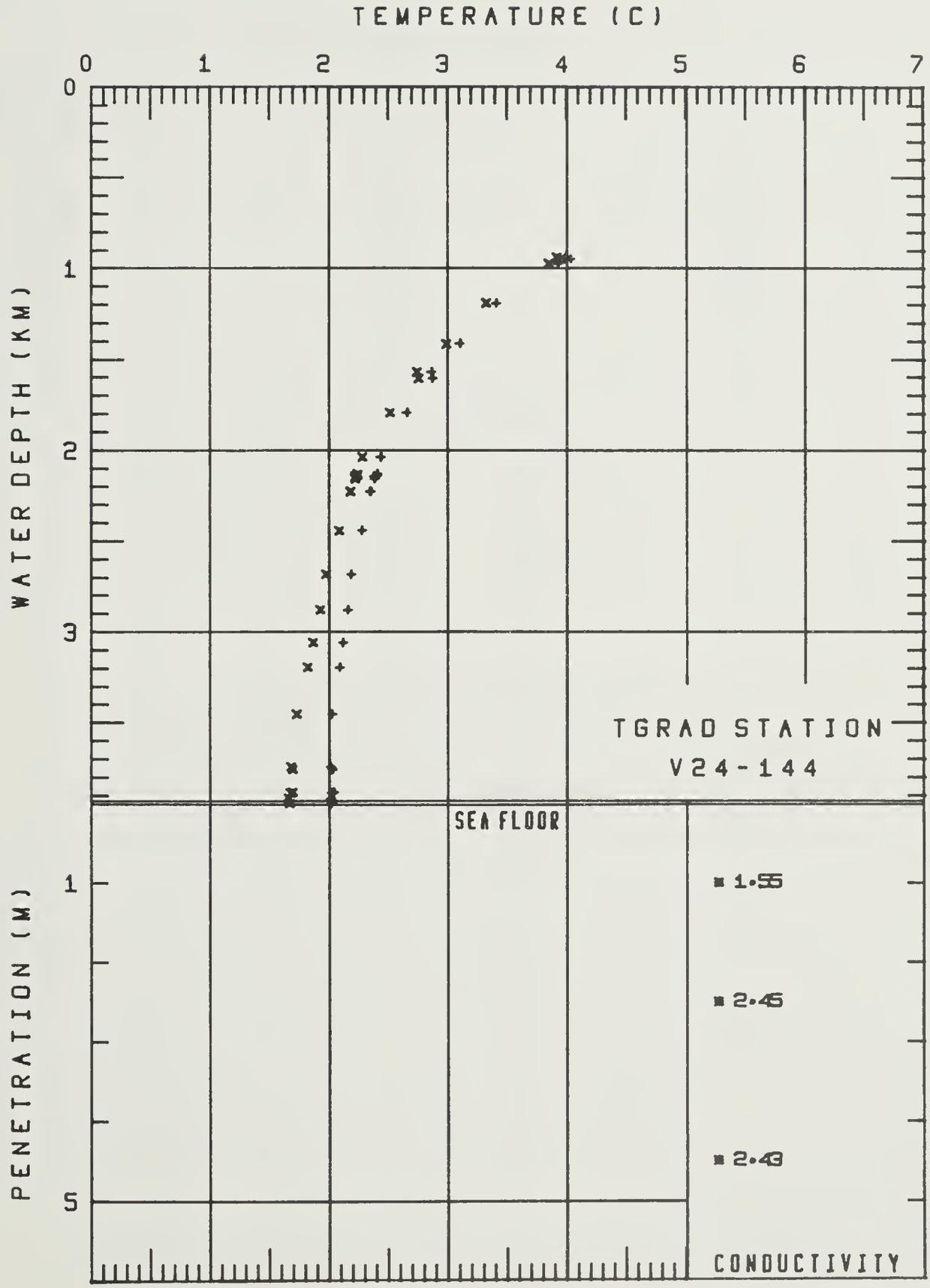
TGRAD STATION V24-144

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
948.	4.02	3.95
935.	3.99	3.91
973.	3.92	3.85
1189.	3.41	3.32
1412.	3.10	2.99
1569.	2.86	2.74
1601.	2.87	2.75
1789.	2.65	2.51
2037.	2.44	2.28
2140.	2.38	2.22
2153.	2.38	2.22
2136.	2.41	2.24
2127.	2.41	2.24
2224.	2.35	2.18
2226.	2.35	2.18
2437.	2.28	2.09
2681.	2.19	1.97
2875.	2.16	1.92
3057.	2.12	1.87
3193.	2.09	1.82
3452.	2.03	1.73
3740.	2.01	1.68
3752.	2.03	1.70
3880.	2.04	1.69
3885.	2.03	1.68
3885.	2.02	1.67
3914.	2.01	1.66
3941.	2.02	1.67

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.55
2.50	2.45
4.50	2.43


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-144
SEA FLOOR
PENETRATION (M)
1
5
= 1.55
= 2.45
= 2.43
CONDUCTIVITY

TGRAD STATION V24-145

WATER TEMPERATURES

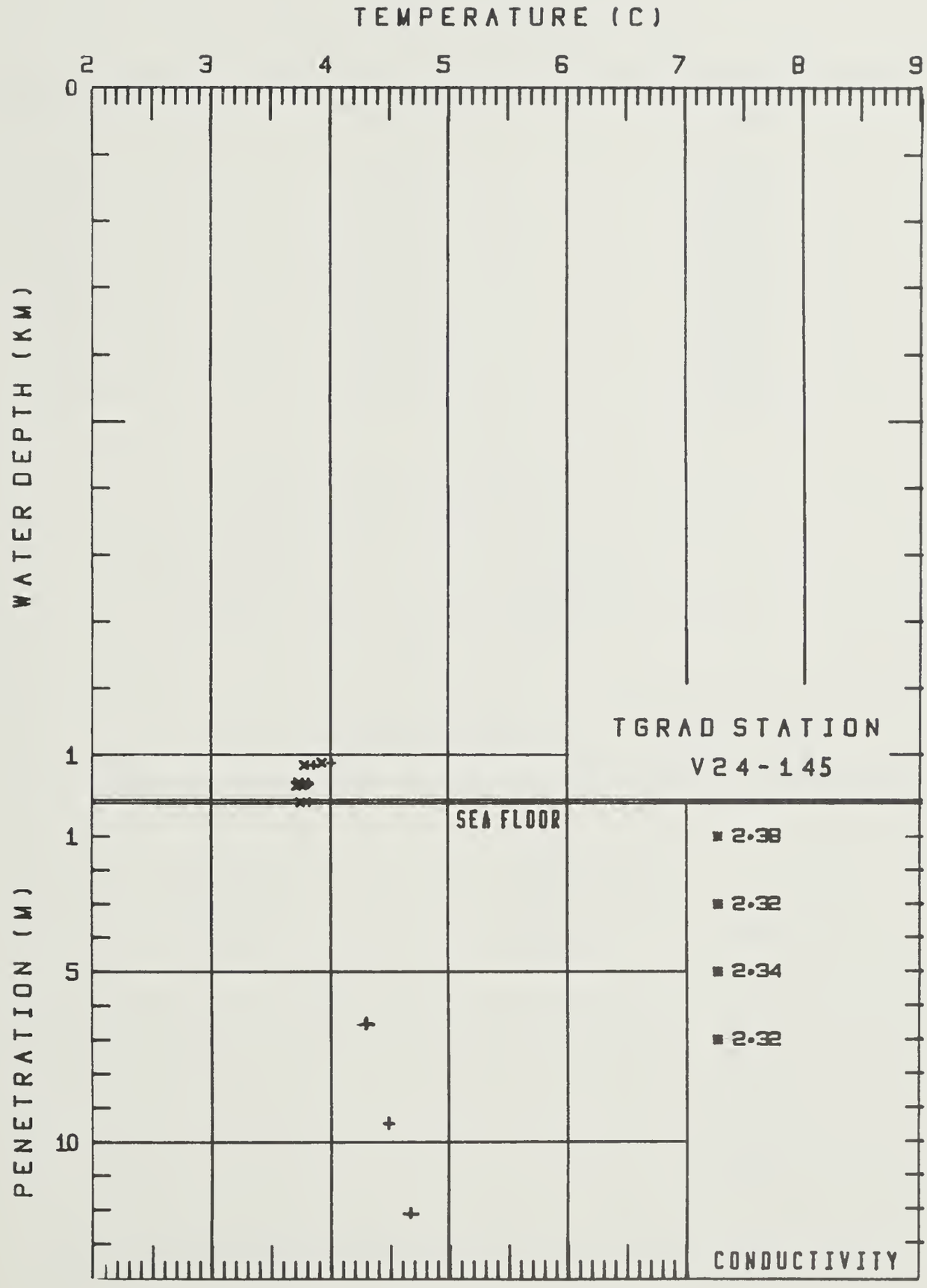
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1010.	4.00	3.92
1014.	3.85	3.77
1070.	3.82	3.74
1042.	3.81	3.73
1040.	3.81	3.73
1045.	3.79	3.71

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
6.55	4.27
9.46	4.47
12.14	4.64

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.38
3.00	2.32
5.00	2.34
7.00	2.32


TEMPERATURE (C)
2
3
4
5
6
7
8
9
0
1
WATER DEPTH (KM)
TGRAD STATION
V24-145
SEA FLOOR
1
5
10
PENETRATION (M)
■ 2·38
■ 2·32
■ 2·34
■ 2·32
CONDUCTIVITY

TGRAD STATION V24-146

WATER TEMPERATURES

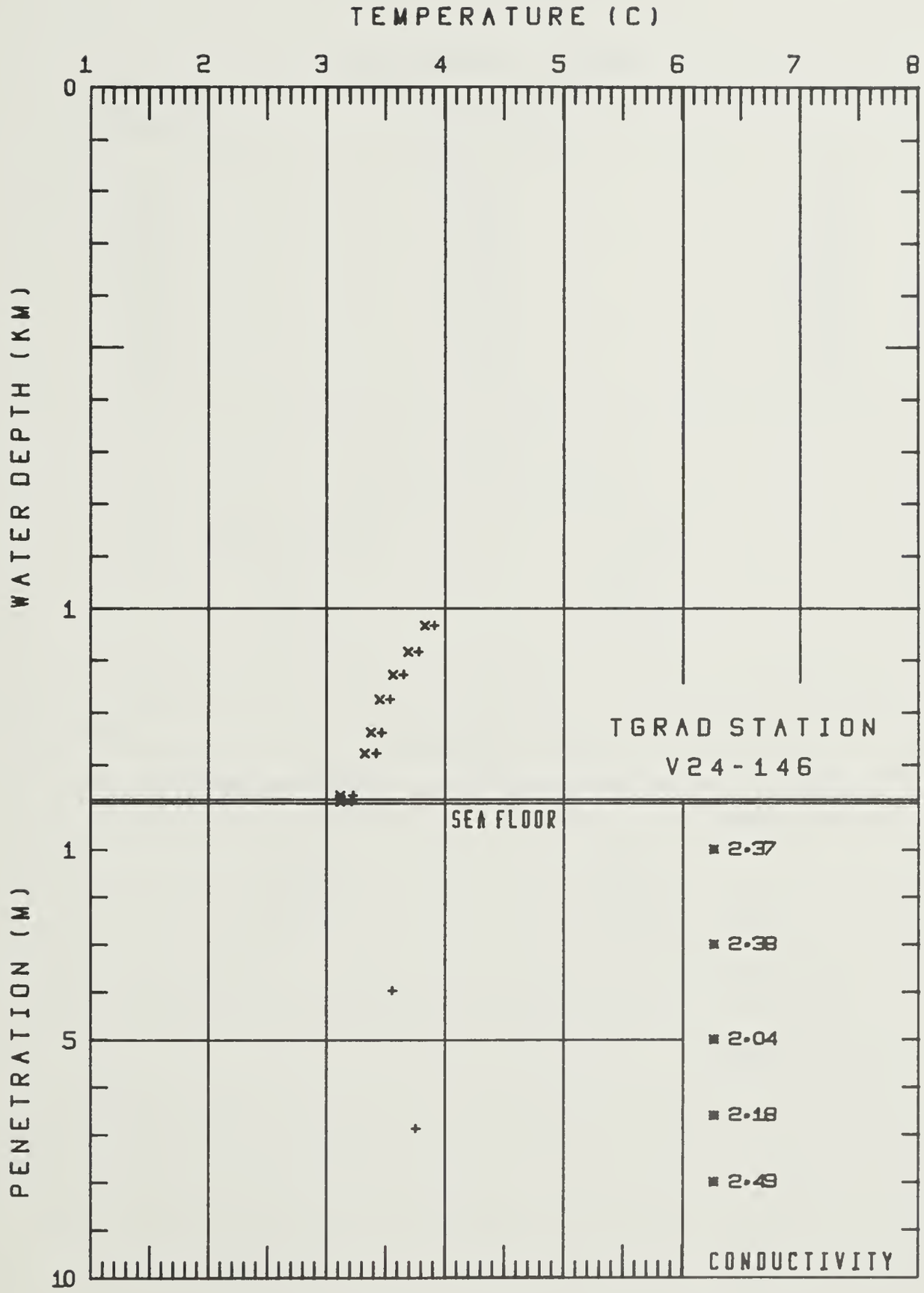
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1033.	3.91	3.83
1082.	3.77	3.69
1126.	3.65	3.56
1174.	3.54	3.44
1237.	3.47	3.37
1278.	3.42	3.32
1359.	3.22	3.12
1370.	3.22	3.11
1367.	3.22	3.11
1366.	3.22	3.11

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.96	3.56
6.86	3.75

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.37
3.00	2.38
5.00	2.04
6.60	2.18
8.00	2.49


TEMPERATURE (C)
1
2
3
4
5
6
7
8
0
1
WATER DEPTH (KM)
TGRAD STATION
V24-146
SEA FLOOR
1
5
10
PENETRATION (M)
2.37
2.38
2.04
2.18
2.43
CONDUCTIVITY

TGRAD STATION V24-147

WATER TEMPERATURES

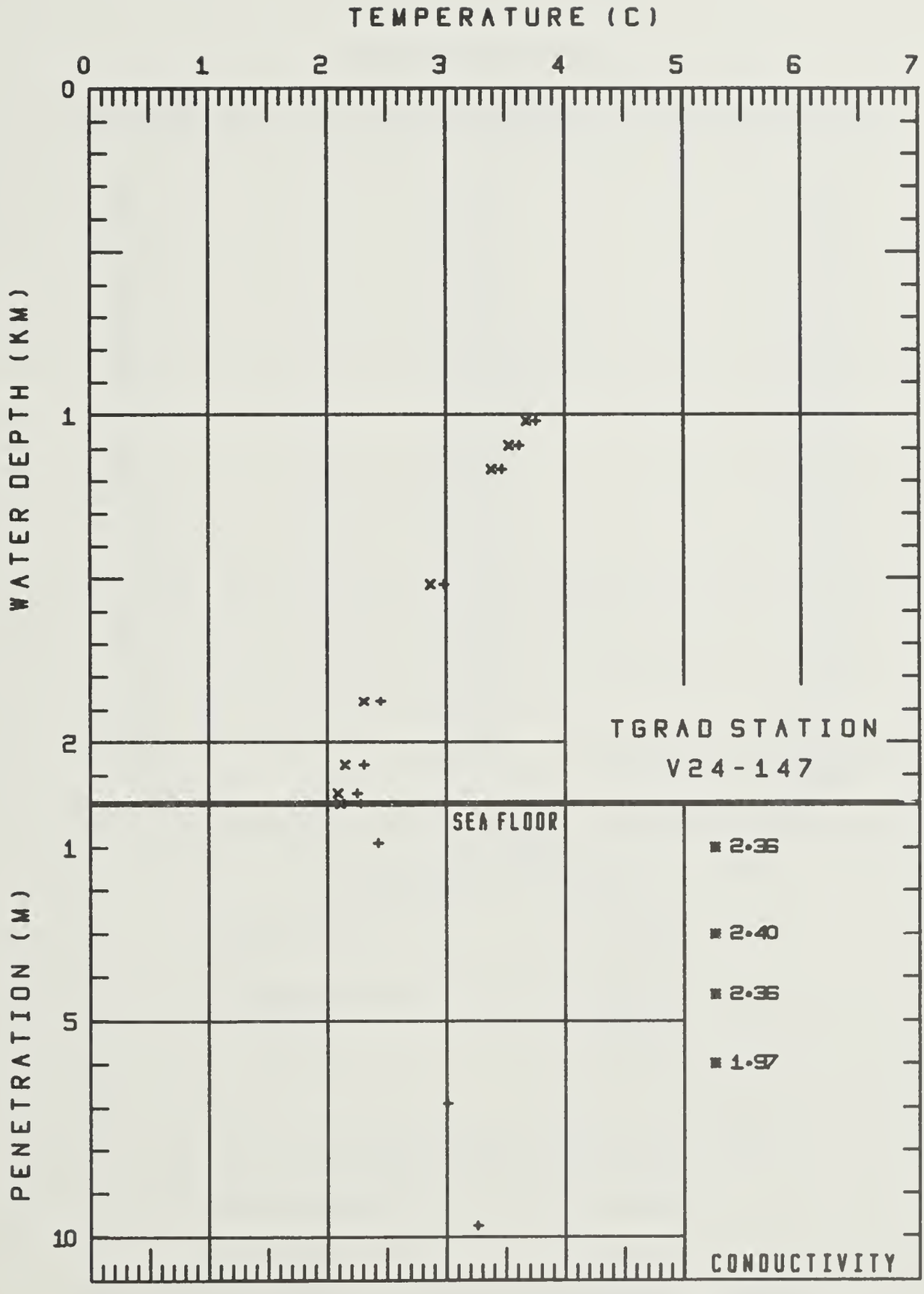
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1016.	3.75	3.67
1090.	3.61	3.53
1164.	3.47	3.38
1517.	2.98	2.86
1874.	2.45	2.31
2068.	2.30	2.15
2157.	2.25	2.09
2188.	2.28	2.11

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.89	2.43
6.91	3.01
9.73	3.26

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.36
3.00	2.40
4.40	2.36
6.00	1.97


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
PENETRATION (M)
1
5
10
TGRAD STATION
V24-147
SEA FLOOR
2.36
2.40
2.36
1.97
CONDUCTIVITY

TGRAD STATION V24-148

WATER TEMPERATURES

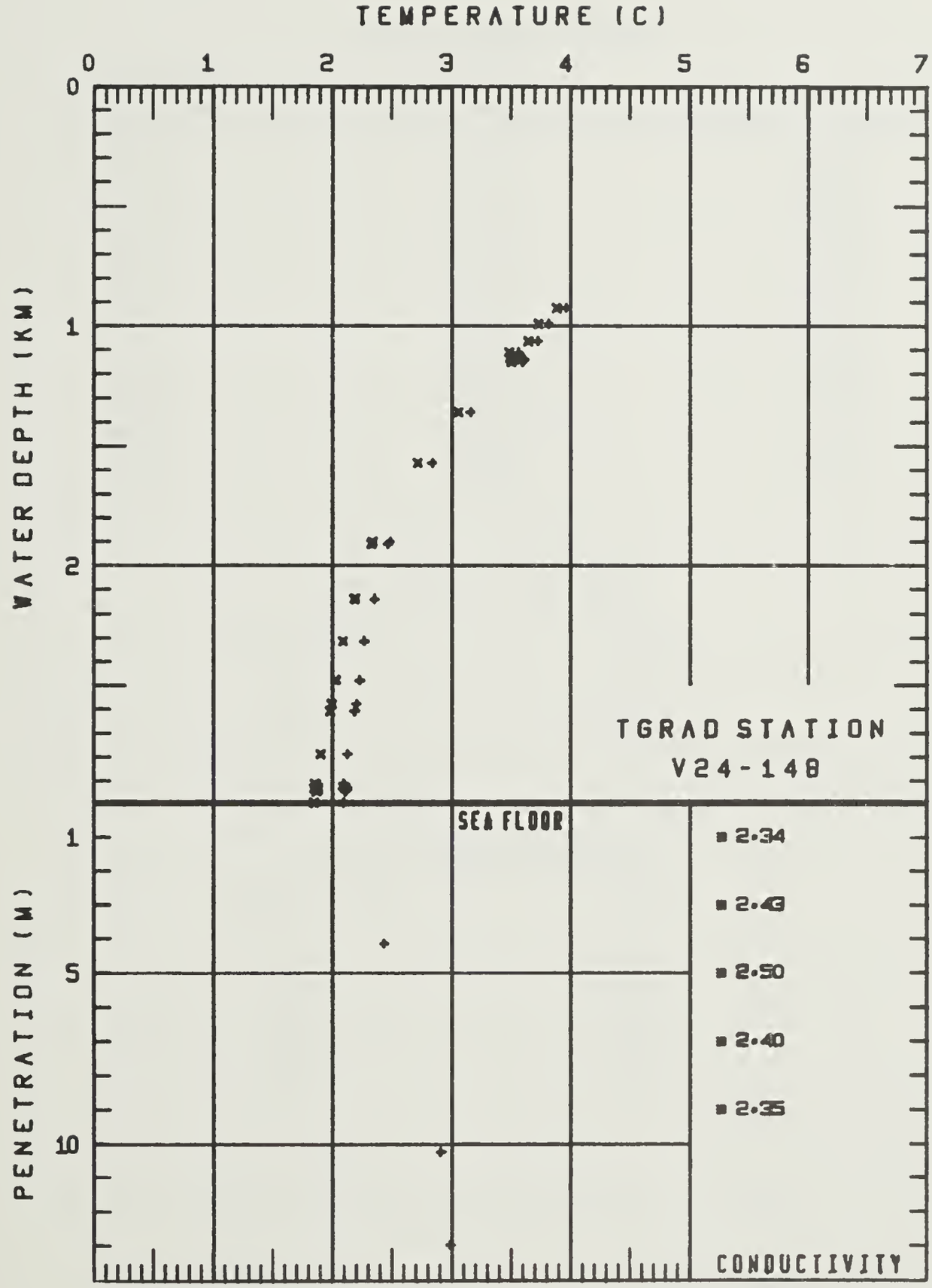
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
923.	3.95	3.88
991.	3.81	3.73
1061.	3.72	3.64
1147.	3.59	3.50
1138.	3.61	3.52
1110.	3.56	3.48
1132.	3.58	3.49
1360.	3.16	3.05
1569.	2.83	2.71
1900.	2.48	2.33
1911.	2.47	2.32
2139.	2.35	2.19
2314.	2.27	2.09
2475.	2.23	2.03
2576.	2.20	2.00
2607.	2.19	1.98
2787.	2.12	1.90
2912.	2.10	1.86
2910.	2.09	1.86
2943.	2.11	1.86
2925.	2.12	1.88
2930.	2.09	1.85
2936.	2.12	1.88
2988.	2.09	1.84

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.13	2.43
10.25	2.91
12.97	2.99

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.34
3.00	2.43
5.00	2.50
7.00	2.40
9.00	2.35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0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-148
SEA FLOOR
PENETRATION (M)
1
5
10
■ 2·34
■ 2·43
■ 2·50
■ 2·40
■ 2·35
CONDUCTIVITY

TGRAD STATION V24-149

WATER TEMPERATURES

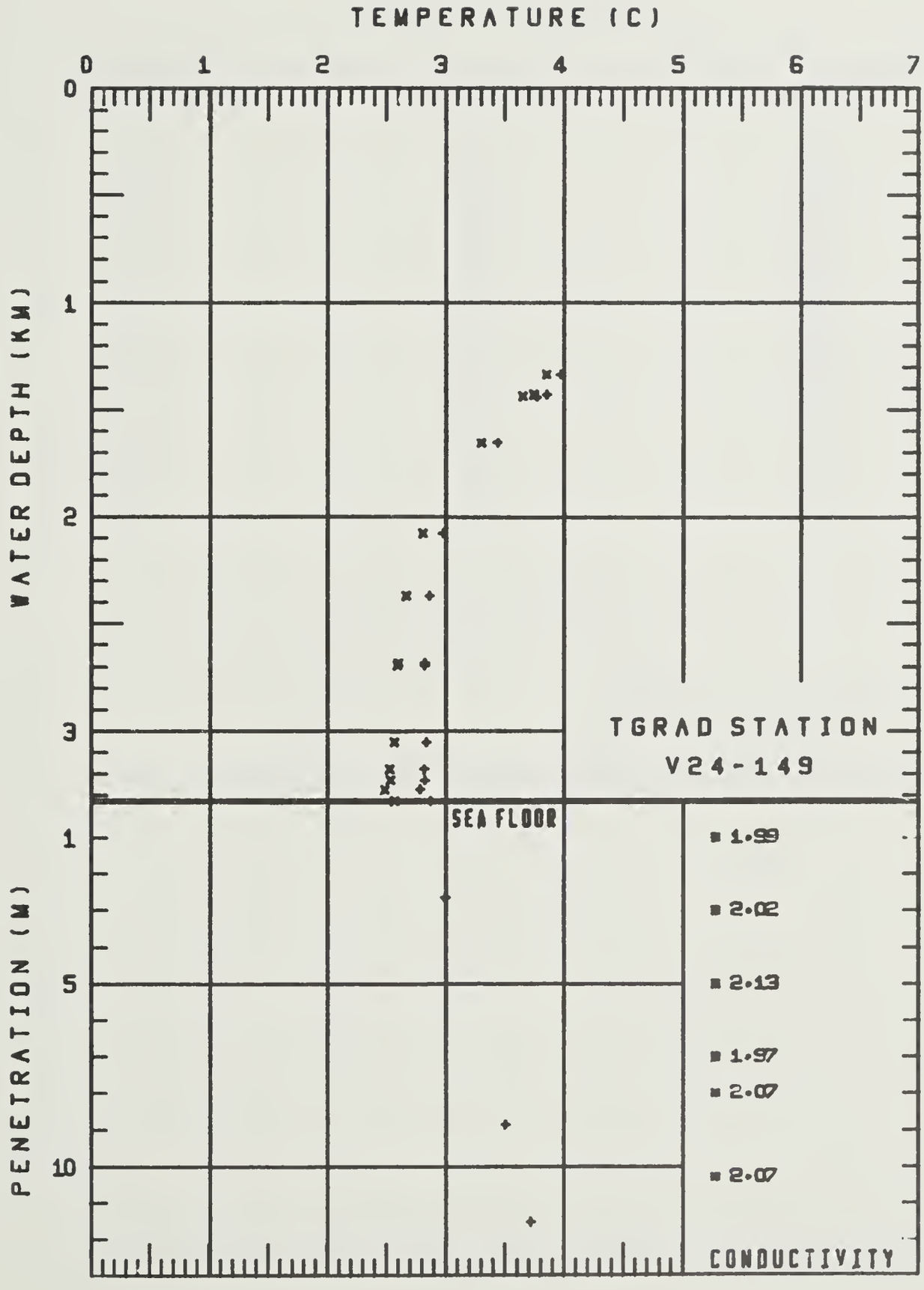
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1333.	3.95	3.84
1425.	3.85	3.73
1437.	3.76	3.64
1653.	3.43	3.29
2076.	2.97	2.80
2369.	2.86	2.66
2695.	2.82	2.59
2684.	2.82	2.59
3052.	2.84	2.56
3179.	2.81	2.52
3229.	2.82	2.53
3326.	2.87	2.56
3273.	2.78	2.48

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.64	2.99
8.86	3.50
11.53	3.71

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.99
3.00	2.02
5.00	2.13
7.00	1.97
8.00	2.07
10.30	2.07


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
PENETRATION (M)
1
5
10
TGRAD STATION
V24-149
SEA FLOOR
= 1.99
= 2.02
= 2.13
= 1.97
= 2.07
= 2.07
CONDUCTIVITY

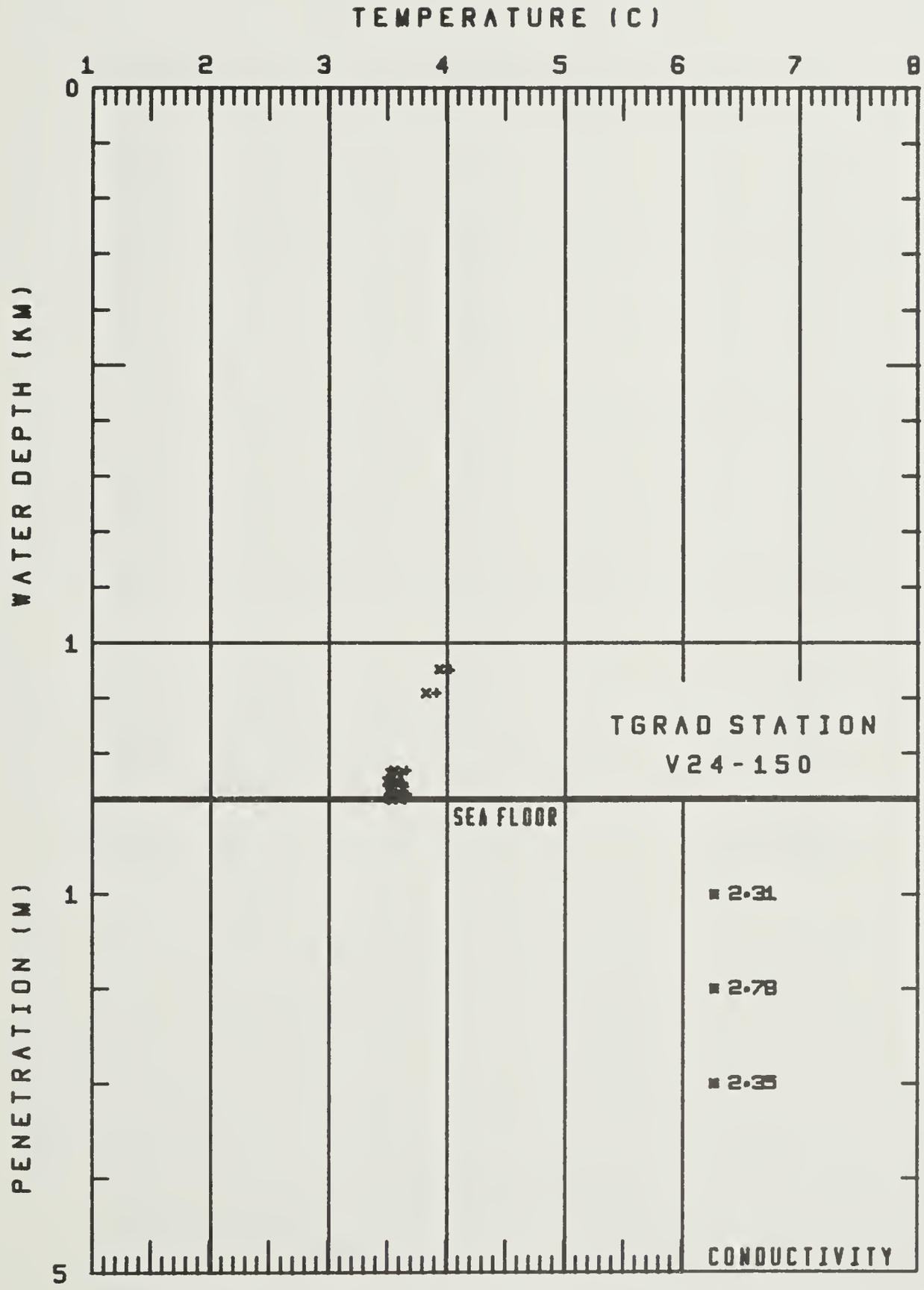
TGRAD STATION V24-150

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1047.	4.02	3.94
1091.	3.90	3.82
1275.	3.62	3.52
1283.	3.64	3.53
1279.	3.61	3.51
1281.	3.63	3.53
1254.	3.63	3.53
1256.	3.62	3.52
1258.	3.63	3.53
1230.	3.65	3.55
1235.	3.61	3.52
1274.	3.66	3.56
1250.	3.59	3.49
1267.	3.63	3.52
1256.	3.62	3.52

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.31
2.00	2.78
3.00	2.35


TEMPERATURE (C)
1
2
3
4
5
6
7
8
0
WATER DEPTH (KM)
1
TGRAD STATION
V24-150
SEA FLOOR
1
PENETRATION (M)
2.31
2.78
2.35
CONDUCTIVITY
5

TGRAD STATION V24-151

WATER TEMPERATURES

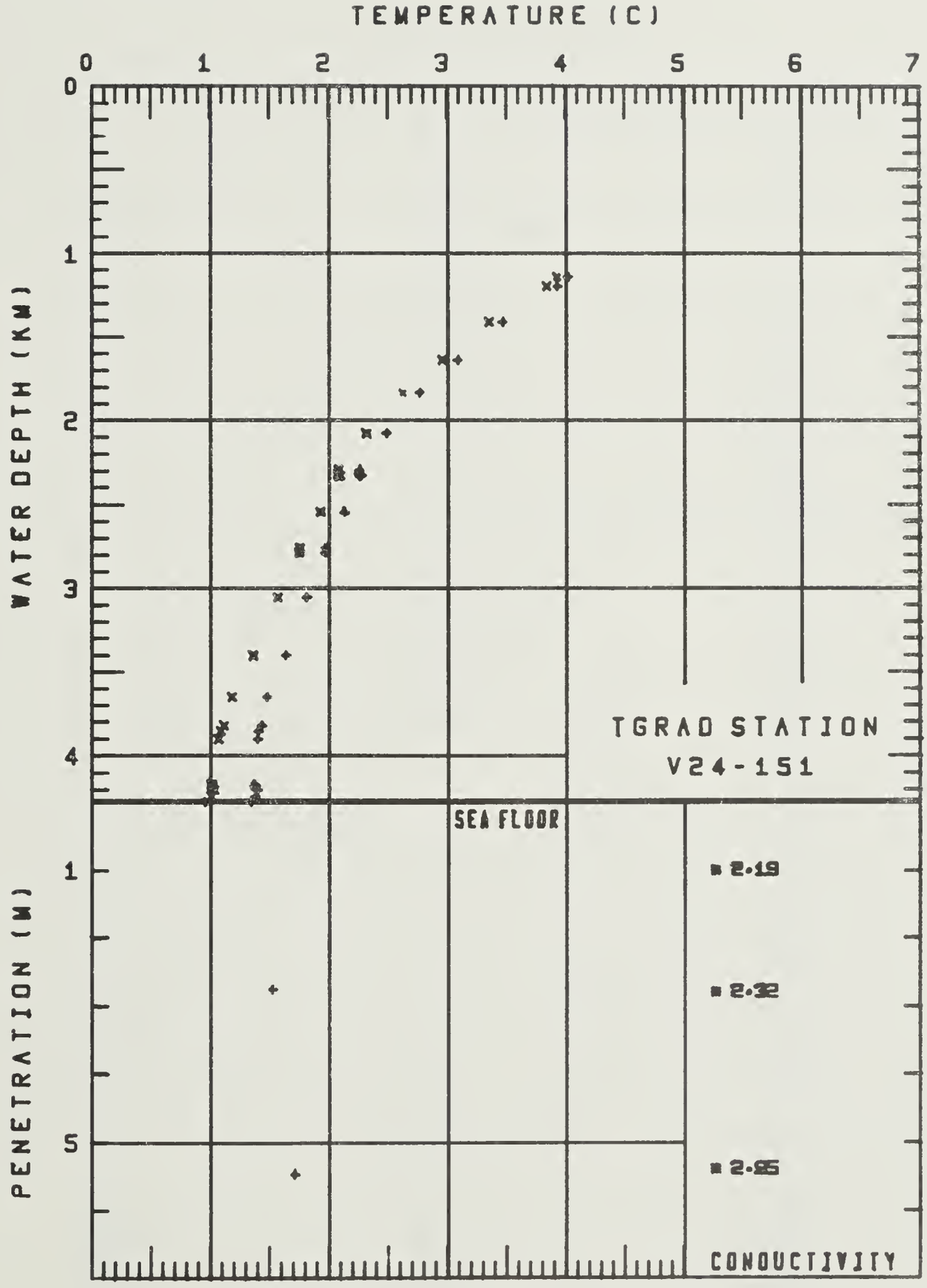
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1137.	4.02	3.92
1195.	3.93	3.83
1412.	3.46	3.35
1638.	3.08	2.95
1833.	2.76	2.62
2077.	2.48	2.32
2294.	2.26	2.08
2327.	2.27	2.09
2329.	2.26	2.08
2318.	2.25	2.07
2547.	2.13	1.93
2757.	1.97	1.75
2789.	1.97	1.75
3055.	1.81	1.57
3400.	1.64	1.36
3646.	1.48	1.18
3817.	1.43	1.11
3848.	1.41	1.09
3897.	1.40	1.07
4169.	1.37	1.01
4190.	1.38	1.01
4178.	1.38	1.02
4171.	1.37	1.01
4203.	1.40	1.03
4173.	1.38	1.02
4170.	1.37	1.01
4238.	1.38	1.01
4273.	1.35	0.98

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.75	1.53
5.47	1.71

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.19
2.80	2.32
5.40	2.95


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-151
SEA FLOOR
= 2.19
= 2.32
= 2.85
CONDUCTIVITY

TGRAD STATION V24-152

WATER TEMPERATURES

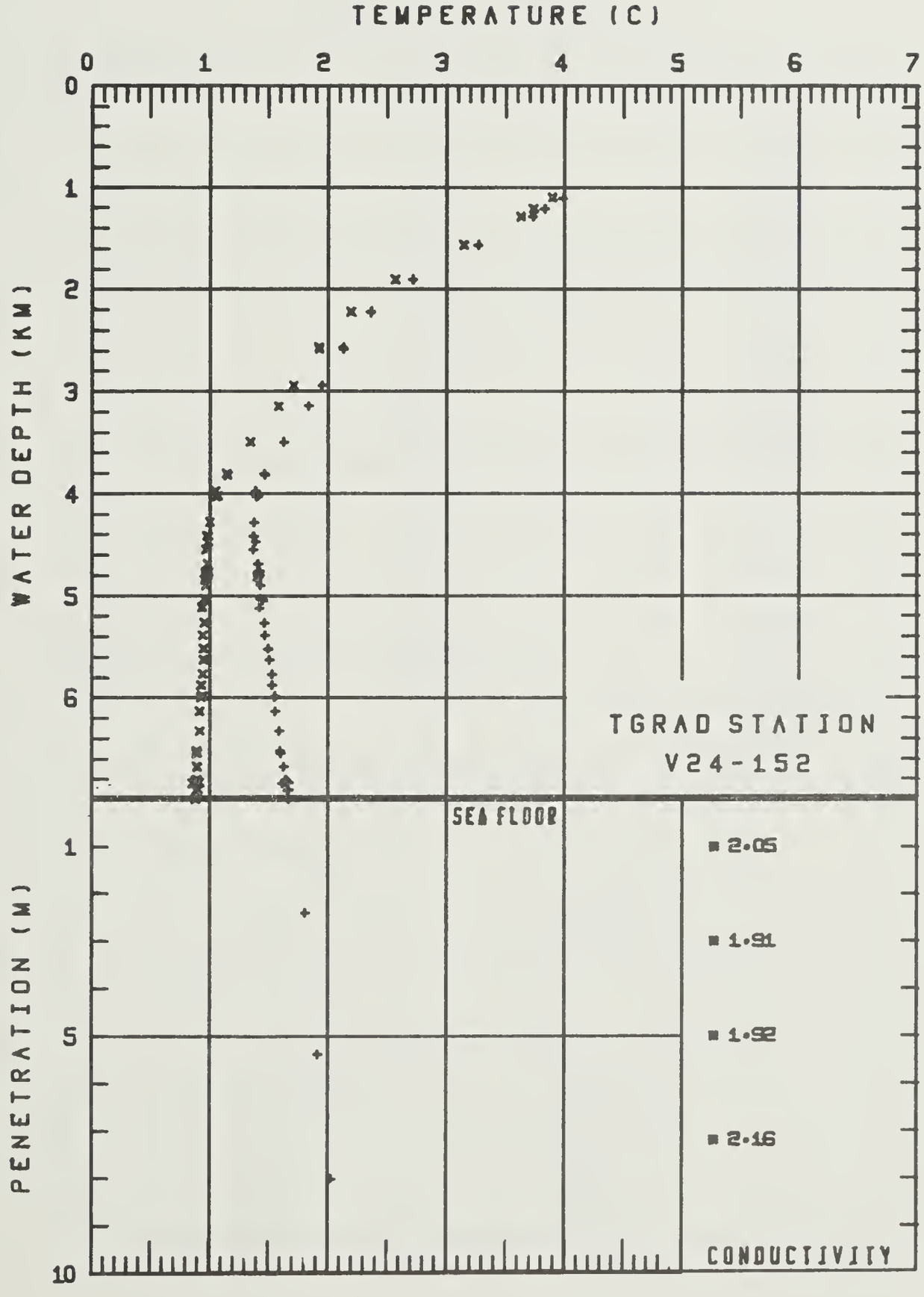
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1099.	3.97	3.88
1201.	3.82	3.73
1280.	3.72	3.62
1561.	3.26	3.14
1895.	2.71	2.56
2214.	2.36	2.18
2563.	2.12	1.92
2579.	2.12	1.92
2938.	1.95	1.71
3141.	1.84	1.58
3485.	1.63	1.34
3813.	1.47	1.15
3800.	1.46	1.14
3971.	1.38	1.05
4015.	1.41	1.07
4024.	1.40	1.05
4270.	1.37	1.00
4413.	1.36	0.97
4411.	1.38	0.99
4469.	1.39	0.99
4542.	1.37	0.96
4688.	1.40	0.98
4764.	1.41	0.97
4805.	1.41	0.97
4774.	1.41	0.97
4793.	1.42	0.98
4762.	1.42	0.98
4754.	1.42	0.98
4776.	1.41	0.97
4805.	1.42	0.97
4838.	1.40	0.96
4897.	1.43	0.97
5044.	1.44	0.97
5025.	1.43	0.95
5109.	1.42	0.94
5262.	1.46	0.95
5385.	1.47	0.94
5519.	1.49	0.95
5514.	1.49	0.95
5624.	1.51	0.94
5762.	1.53	0.94
5874.	1.53	0.93
5983.	1.55	0.94
5991.	1.55	0.93
6128.	1.56	0.92
6323.	1.59	0.92
6544.	1.60	0.89
6515.	1.59	0.89
6540.	1.60	0.89
6672.	1.63	0.90
6829.	1.67	0.91
6833.	1.61	0.86
6807.	1.64	0.89
6820.	1.65	0.90
6818.	1.64	0.88
6825.	1.66	0.90
6804.	1.65	0.89
6804.	1.65	0.89
6899.	1.67	0.90
6906.	1.66	0.88
6992.	1.67	0.88

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.40	1.81
5.38	1.91
8.00	2.03

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.05
3.00	1.91
5.00	1.92
7.20	2.16


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-152
= 2.05
= 1.91
= 1.92
= 2.16
CONDUCTIVITY

TGRAD STATION V24-153

WATER TEMPERATURES

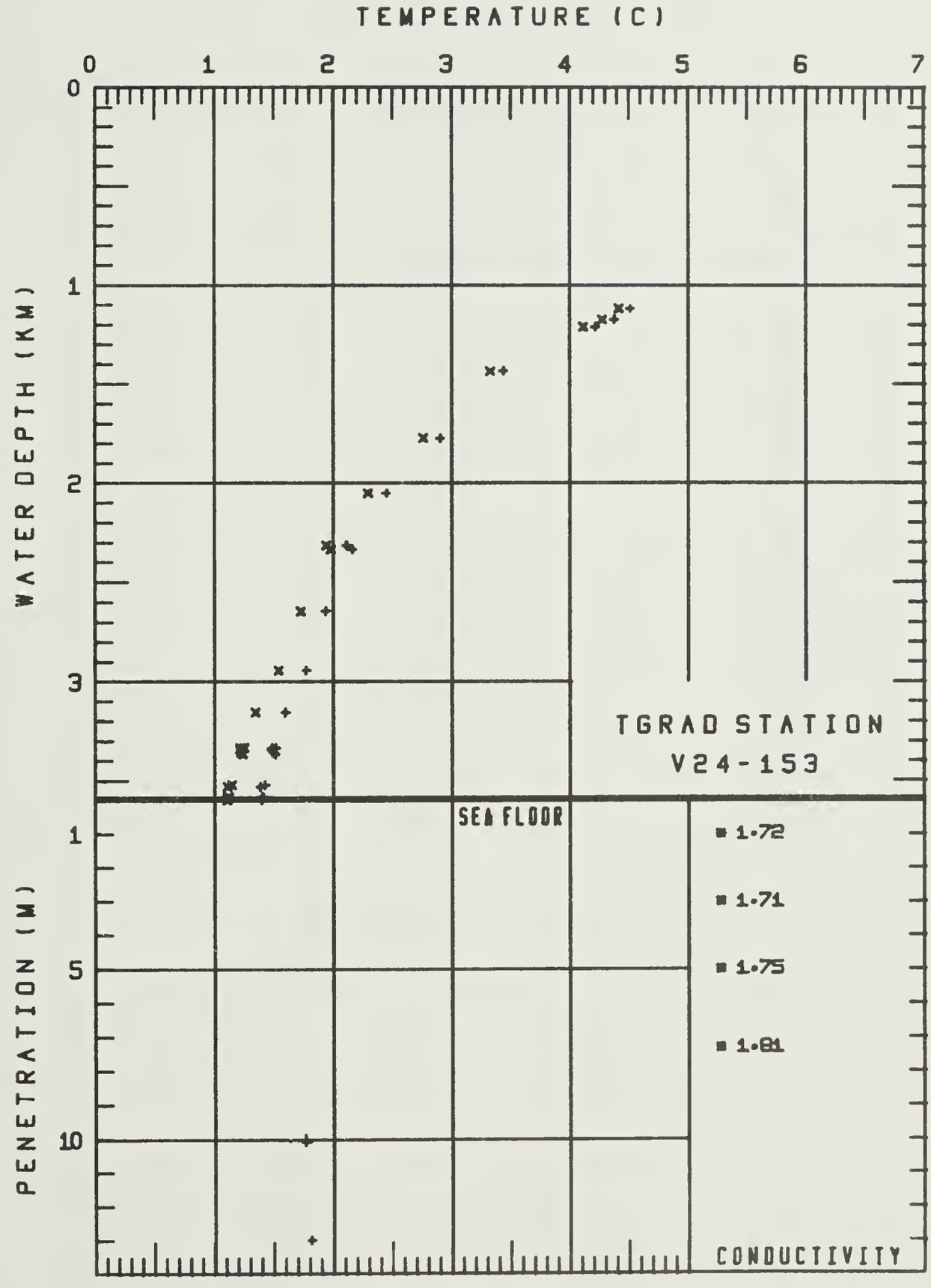
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1116.	4.50	4.41
1170.	4.37	4.27
1206.	4.21	4.10
1432.	3.43	3.32
1770.	2.89	2.75
2047.	2.44	2.28
2332.	2.15	1.97
2308.	2.11	1.93
2640.	1.93	1.72
2940.	1.77	1.53
3154.	1.59	1.34
3335.	1.51	1.25
3340.	1.47	1.21
3335.	1.48	1.21
3365.	1.51	1.24
3357.	1.49	1.22
3519.	1.42	1.14
3589.	1.40	1.11
3583.	1.41	1.11
3580.	1.40	1.11
3531.	1.38	1.10
3597.	1.40	1.10

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
10.07	1.75
12.97	1.81

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.72
3.00	1.71
5.00	1.75
7.30	1.81


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
PENETRATION (M)
1
5
10
TGRAD STATION
V24-153
SEA FLOOR
■ 1.72
■ 1.71
■ 1.75
■ 1.81
CONDUCTIVITY

TGRAD STATION V24-154

WATER TEMPERATURES

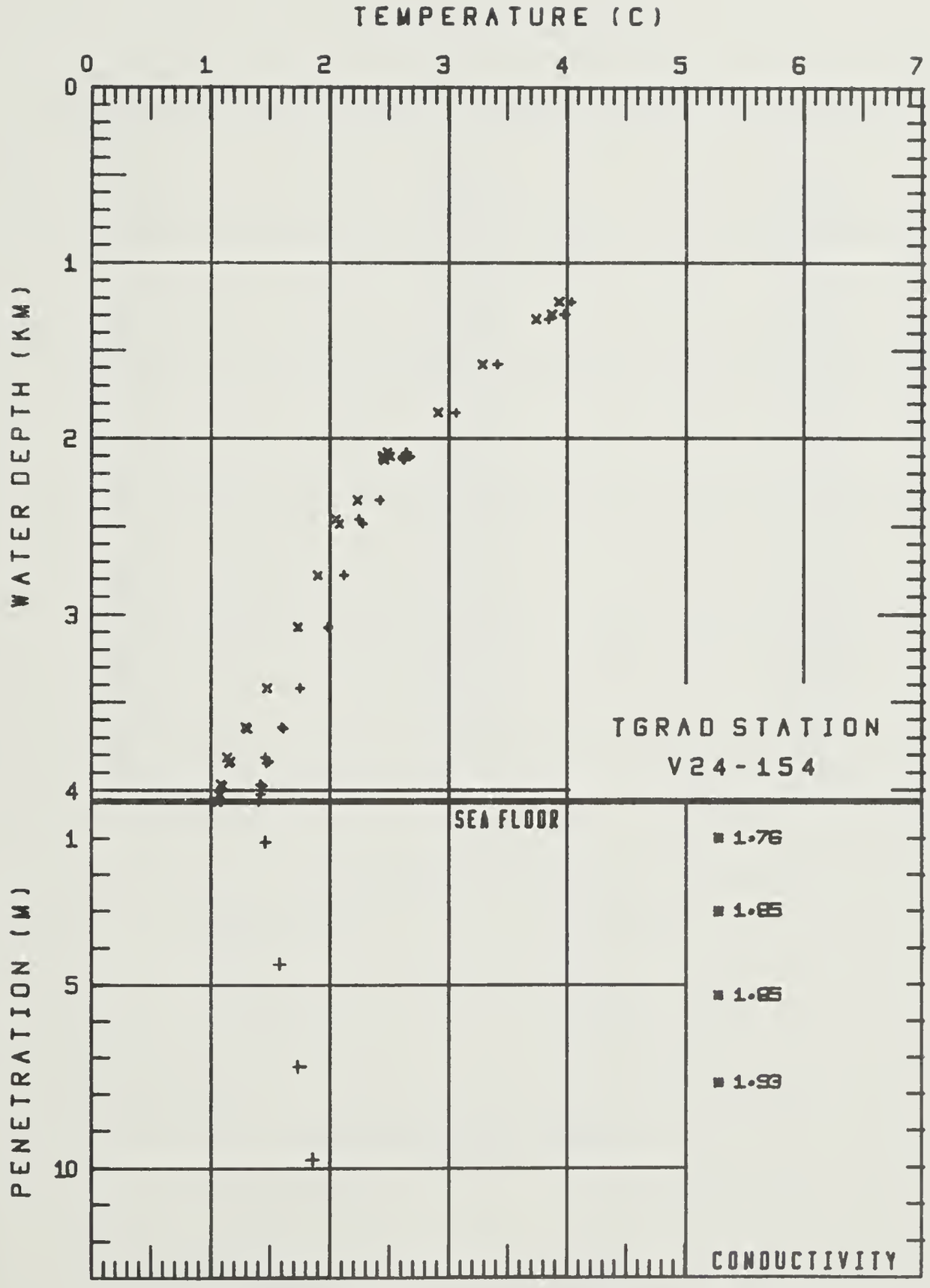
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1220.	4.02	3.92
1290.	3.96	3.86
1320.	3.83	3.73
1577.	3.40	3.27
1849.	3.05	2.90
2113.	2.61	2.44
2118.	2.61	2.45
2101.	2.60	2.44
2113.	2.61	2.44
2100.	2.66	2.49
2078.	2.64	2.47
2345.	2.41	2.22
2483.	2.27	2.07
2456.	2.23	2.04
2778.	2.11	1.88
3070.	1.98	1.72
3415.	1.74	1.46
3637.	1.59	1.28
3648.	1.60	1.29
3841.	1.46	1.14
3834.	1.48	1.15
3810.	1.44	1.12
3973.	1.42	1.08
3965.	1.41	1.07
4023.	1.41	1.06
4063.	1.39	1.04

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.02	1.43
4.31	1.59
7.23	1.73
9.90	1.85

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.76
3.00	1.85
5.30	1.85
7.70	1.93


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-154
SEA FLOOR
PENETRATION (M)
1
5
10
= 1.76
= 1.85
= 1.85
= 1.93
CONDUCTIVITY

TGRAD STATION V24-155

WATER TEMPERATURES

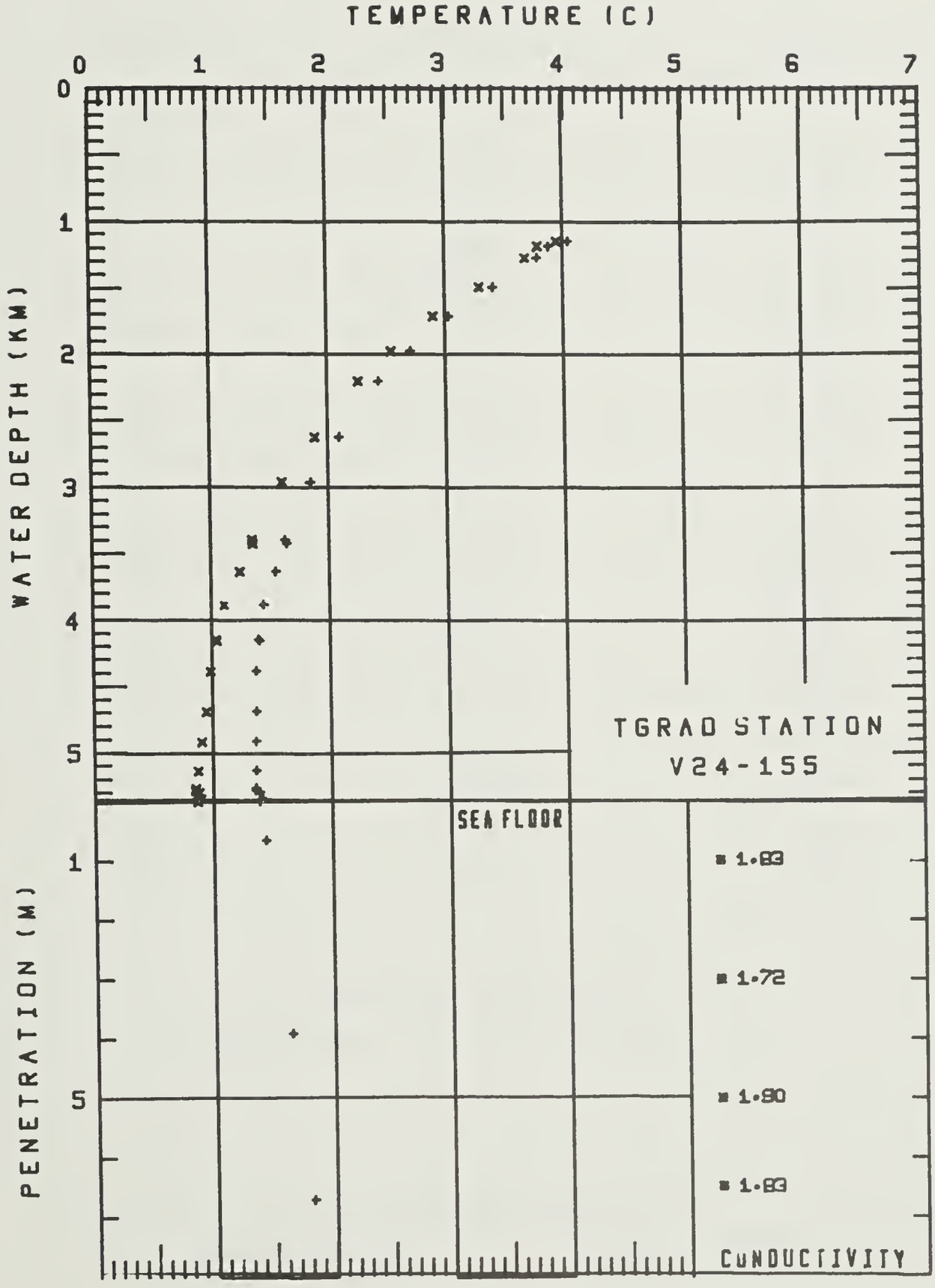
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1148.	4.04	3.94
1180.	3.88	3.79
1269.	3.78	3.68
1488.	3.41	3.29
1709.	3.04	2.90
1974.	2.70	2.54
2198.	2.43	2.26
2618.	2.09	1.89
2956.	1.85	1.61
3390.	1.63	1.35
3423.	1.64	1.36
3633.	1.54	1.24
3880.	1.44	1.11
4142.	1.39	1.03
4155.	1.40	1.04
4381.	1.37	0.98
4689.	1.37	0.95
4913.	1.36	0.90
5136.	1.36	0.88
5295.	1.39	0.88
5281.	1.35	0.85
5264.	1.36	0.85
5342.	1.41	0.89
5366.	1.39	0.87

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.65	1.43
3.91	1.64
6.71	1.81

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.83
3.00	1.72
5.00	1.90
6.50	1.83


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-155
SEA FLOOR
= 1.83
= 1.72
= 1.80
= 1.83
CONDUCTIVITY

TGRAD STATION V24-156

WATER TEMPERATURES

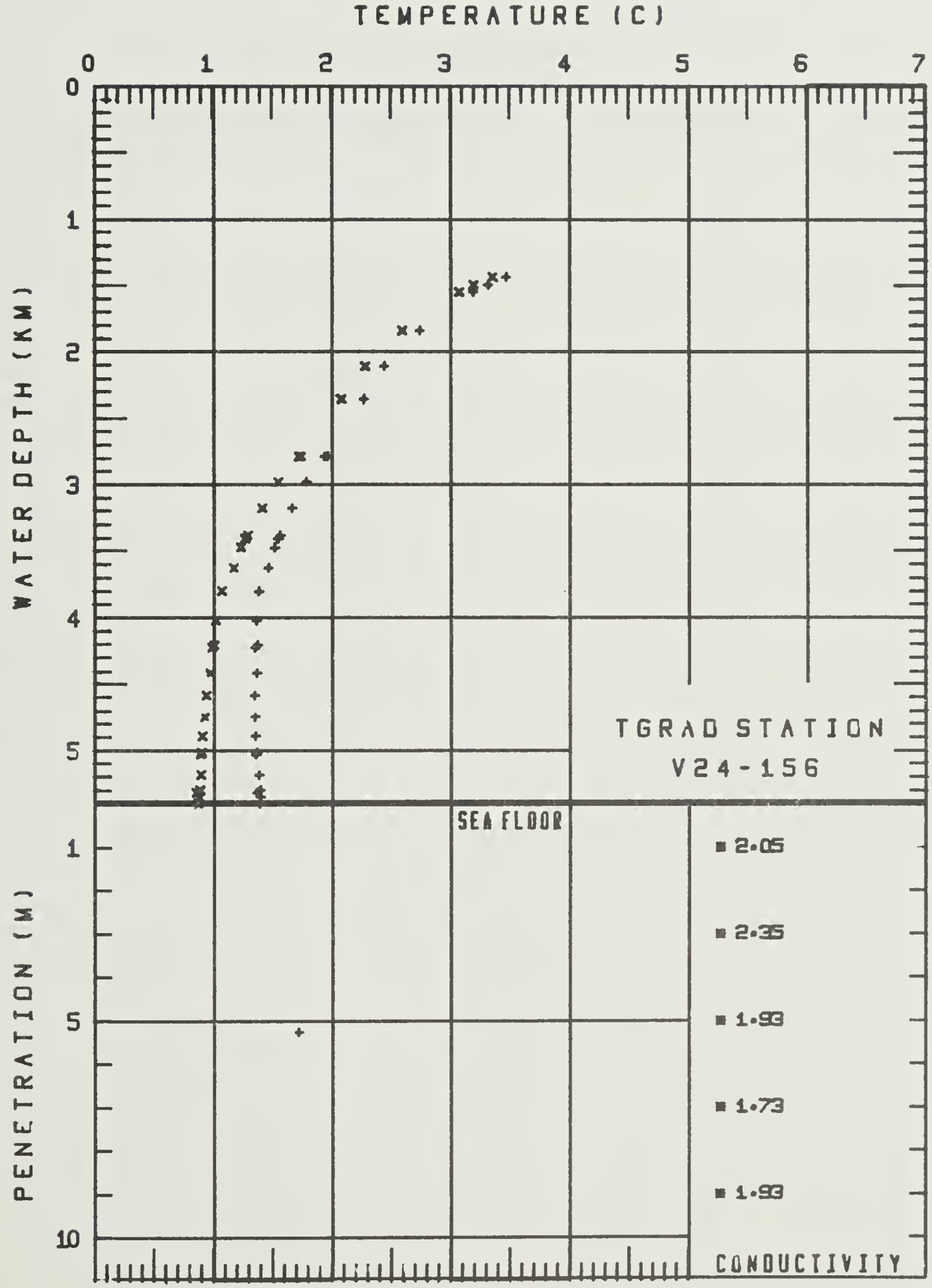
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1434.	3.47	3.35
1494.	3.31	3.20
1548.	3.19	3.07
1837.	2.74	2.59
2107.	2.44	2.28
2353.	2.26	2.08
2783.	1.96	1.74
2783.	1.94	1.72
2975.	1.78	1.55
3173.	1.67	1.41
3380.	1.57	1.29
3400.	1.55	1.27
3401.	1.55	1.27
3466.	1.52	1.24
3625.	1.47	1.17
3796.	1.39	1.07
4020.	1.36	1.02
4207.	1.37	1.01
4222.	1.35	0.99
4413.	1.36	0.98
4581.	1.35	0.94
4742.	1.36	0.93
4892.	1.36	0.90
5026.	1.36	0.89
5012.	1.37	0.90
5184.	1.39	0.89
5298.	1.39	0.89
5314.	1.36	0.86
5295.	1.40	0.89
5352.	1.40	0.88
5399.	1.40	0.87

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
5.27	1.72

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.05
3.00	2.35
5.00	1.93
7.00	1.73
9.00	1.93


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-156
SEA FLOOR
PENETRATION (M)
1
5
10
= 2.05
= 2.35
= 1.93
= 1.73
= 1.93
CONDUCTIVITY

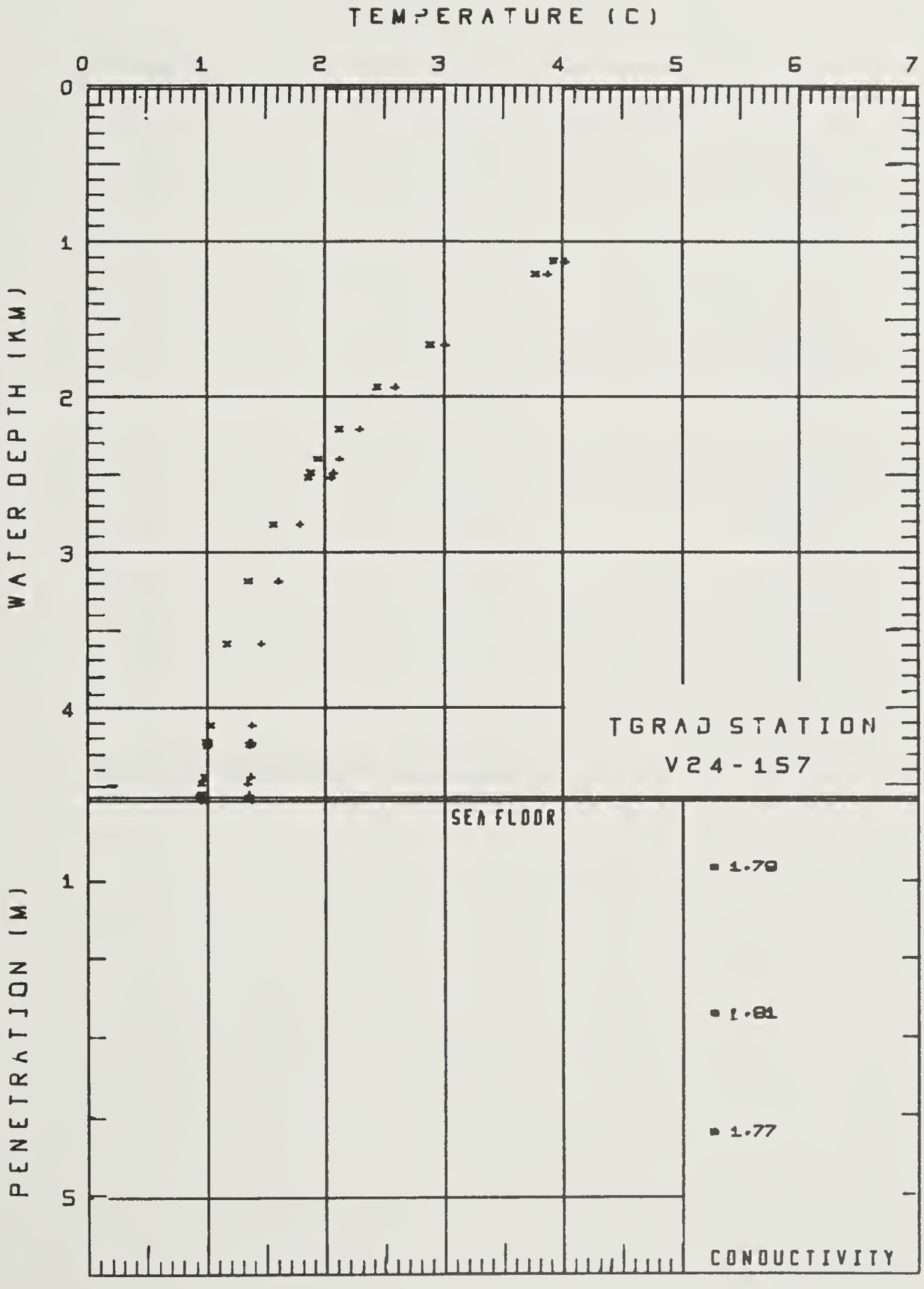
TGRAD STATION V24-157

WATER TEMPERATURES

DEPTH METERS	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1115	4.016	3.927
1202	3.869	3.772
1659	3.013	2.882
1929	2.588	2.440
2201	2.289	2.119
2393	2.121	1.937
2480	2.073	1.881
2511	2.050	1.855
2818	1.782	1.562
3173	1.611	1.358
3179	1.608	1.355
3581	1.467	1.173
4108	1.381	1.029
4215	1.378	1.013
4237	1.368	1.001
4209	1.358	0.995
4225	1.380	1.013
4439	1.371	0.979
4472	1.346	0.951
4558	1.355	0.949
4591	1.384	0.972
4573	1.351	0.942
4568	1.348	0.941

SEDIMENT CONDUCTIVIES

DEPTH METERS	CONDUCTIVITY
0.85	1.78
2.70	1.81
4.20	1.77


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-157
SEA FLOOR
= 1.79
= 1.81
= 1.77
CONDUCTIVITY

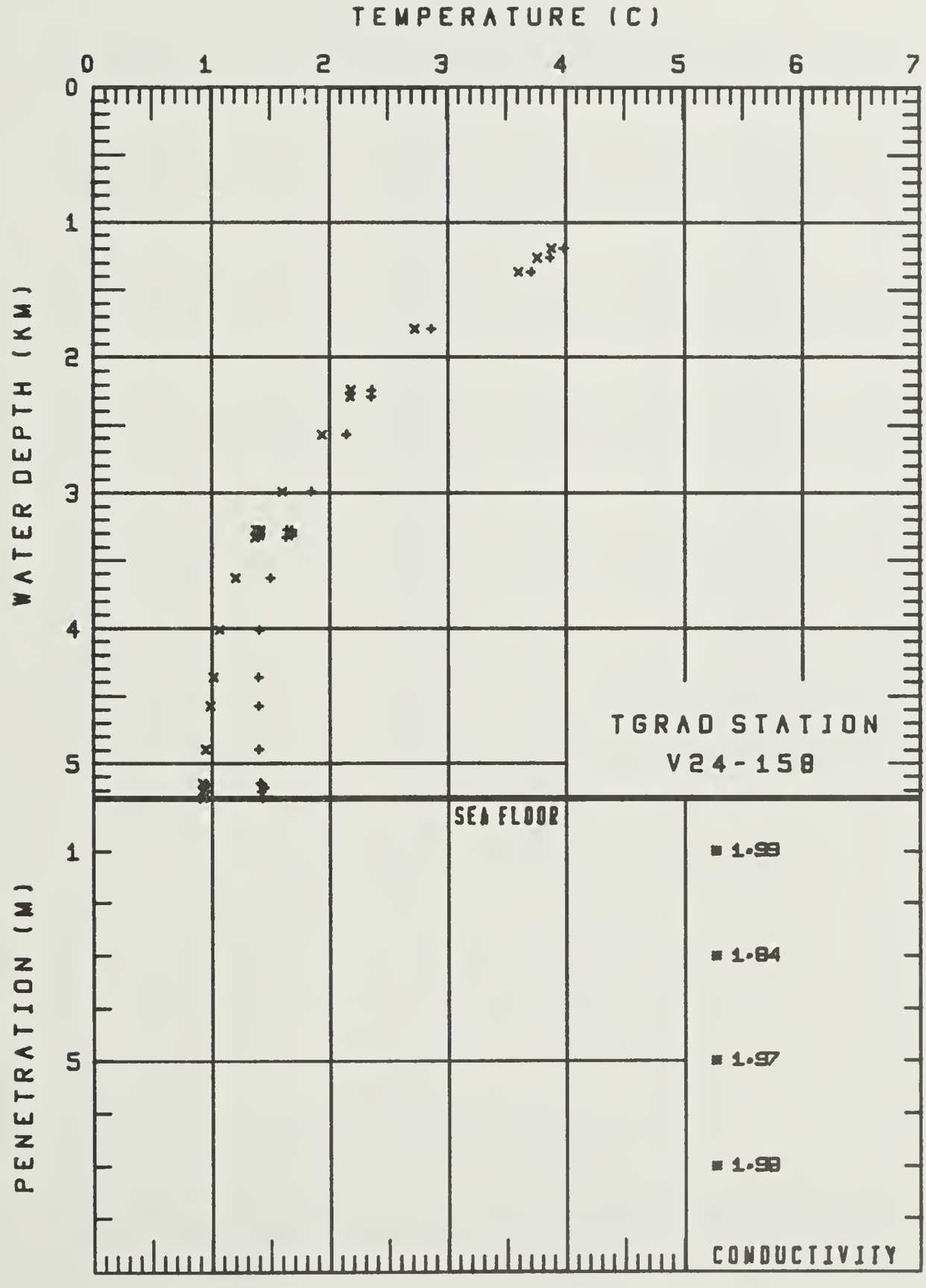
TGRAD STATION V24-158

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1193.	3.98	3.88
1260.	3.86	3.76
1367.	3.71	3.60
1787.	2.86	2.72
2245.	2.35	2.18
2288.	2.35	2.17
2570.	2.14	1.94
2990.	1.84	1.60
3277.	1.68	1.42
3279.	1.68	1.42
3314.	1.68	1.41
3295.	1.68	1.41
3270.	1.64	1.38
3297.	1.67	1.41
3326.	1.64	1.37
3628.	1.50	1.20
4014.	1.41	1.07
4361.	1.40	1.02
4570.	1.40	0.99
4893.	1.40	0.95
5148.	1.41	0.92
5178.	1.44	0.95
5158.	1.43	0.93
5205.	1.42	0.92
5256.	1.43	0.93

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.99
3.00	1.84
5.00	1.97
7.00	1.98


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-158
SEA FLOOR
PENETRATION (M)
1
5
= 1.93
= 1.84
= 1.97
= 1.93
CONDUCTIVITY

TGRAD STATION V24-159

WATER TEMPERATURES

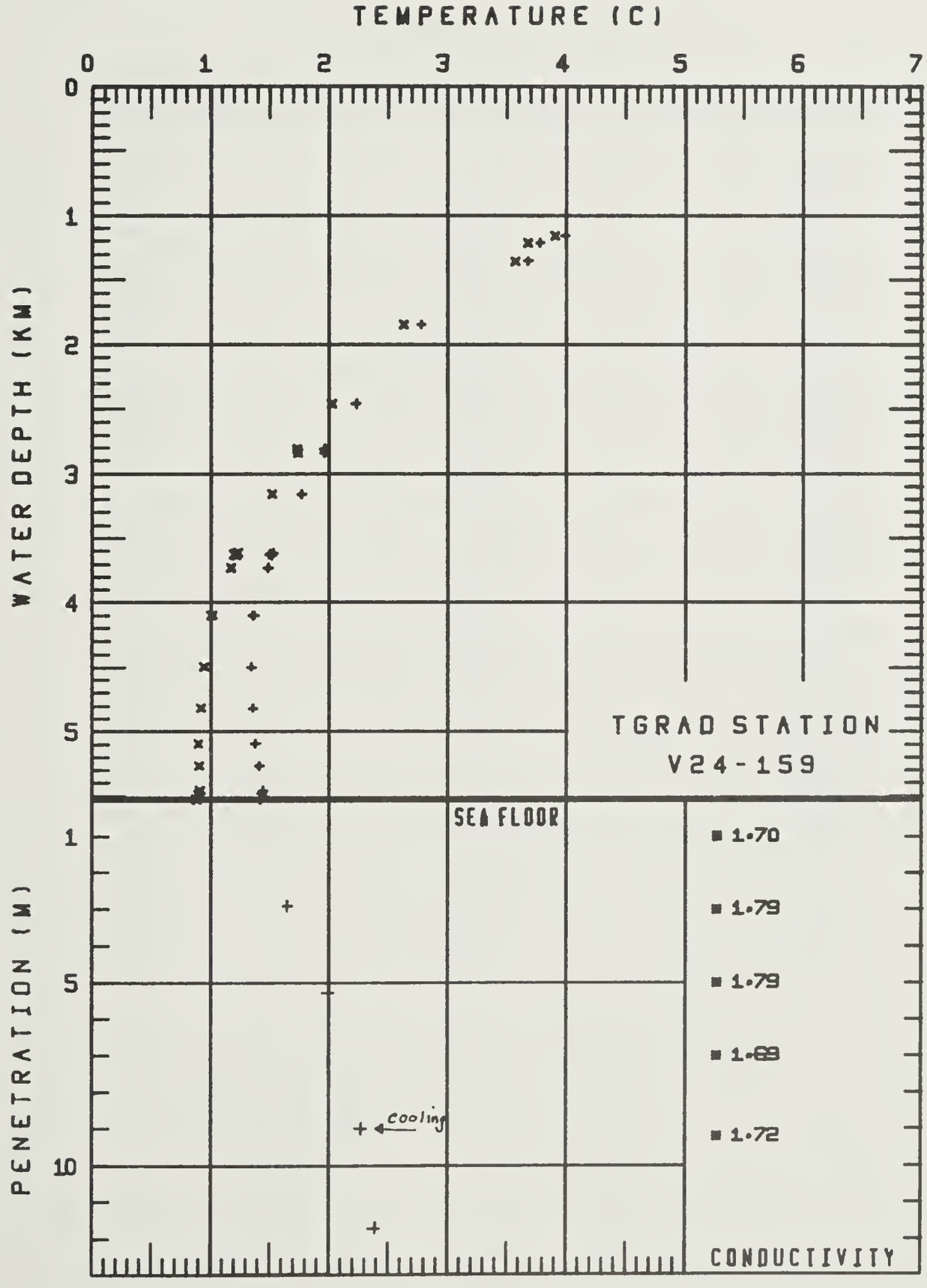
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1152.	3.99	3.90
1211.	3.77	3.67
1352.	3.68	3.57
1844.	2.77	2.63
2457.	2.22	2.02
2804.	1.95	1.73
2839.	1.96	1.73
3155.	1.77	1.51
3628.	1.51	1.21
3620.	1.50	1.20
3625.	1.49	1.19
3609.	1.53	1.23
3729.	1.48	1.17
4099.	1.36	1.01
4095.	1.35	1.00
4496.	1.34	0.94
4813.	1.35	0.91
5090.	1.37	0.90
5262.	1.40	0.90
5527.	1.42	0.88
5518.	1.41	0.87
5502.	1.46	0.91
5475.	1.43	0.89
5455.	1.44	0.90

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.90	1.63
5.24	1.99
9.03	2.22
11.69	2.34

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.70
3.00	1.79
5.00	1.79
7.00	1.69
9.20	1.72


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-159
1.70
1.79
1.79
1.68
1.72
cooling
CONDUCTIVITY

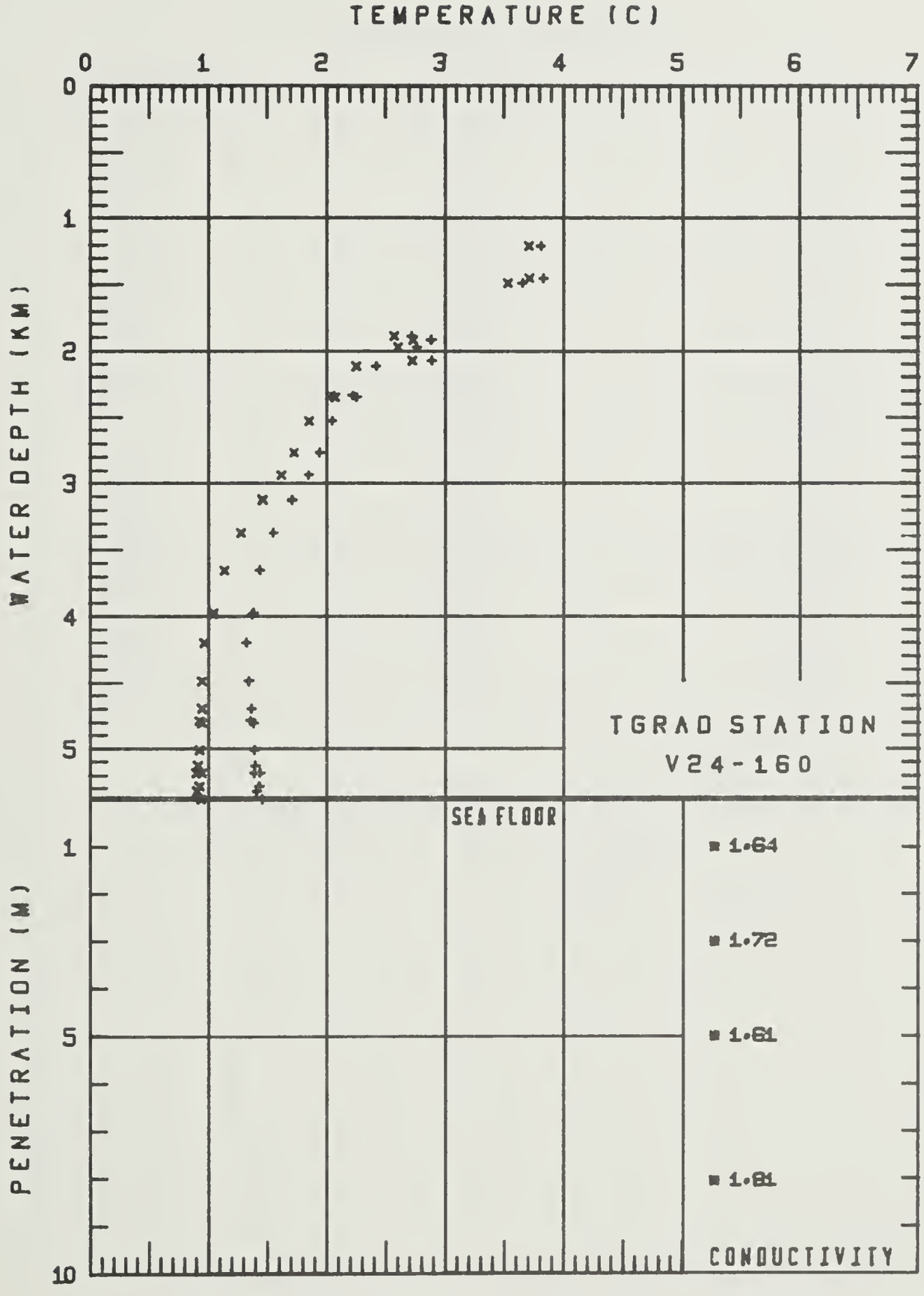
TGRAD STATION V24-160

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1208.	3.80	3.70
1451.	3.83	3.71
1487.	3.65	3.53
1915.	2.88	2.73
1971.	2.76	2.60
2071.	2.89	2.72
1889.	2.72	2.57
2111.	2.41	2.25
2337.	2.21	2.03
2344.	2.25	2.07
2526.	2.04	1.85
2762.	1.94	1.72
2930.	1.85	1.61
3119.	1.71	1.46
3124.	1.71	1.46
3371.	1.55	1.27
3648.	1.43	1.13
3971.	1.38	1.04
3986.	1.37	1.03
4201.	1.32	0.96
4485.	1.34	0.94
4694.	1.36	0.94
4801.	1.38	0.94
4784.	1.35	0.92
5003.	1.39	0.92
5125.	1.39	0.91
5177.	1.44	0.94
5180.	1.39	0.90
5279.	1.43	0.92
5312.	1.41	0.90
5375.	1.45	0.93

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.64
3.00	1.72
5.00	1.61
8.05	1.81


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-160
= 1.64
= 1.72
= 1.61
= 1.81
CONDUCTIVITY

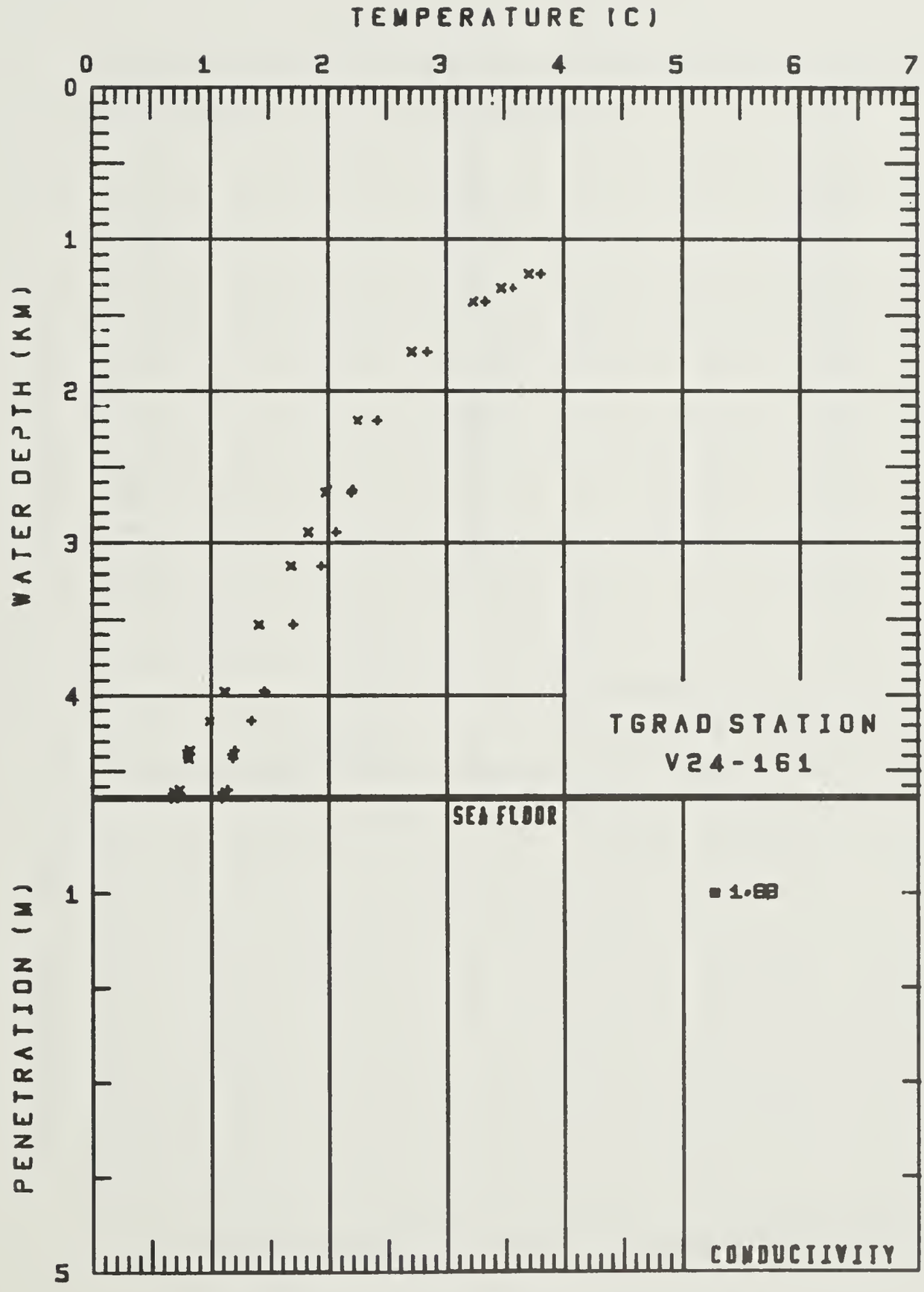
TGRAD STATION V24-161

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1224.	3.80	3.70
1321.	3.57	3.46
1407.	3.33	3.22
1740.	2.84	2.71
2191.	2.42	2.25
2653.	2.20	1.99
2667.	2.19	1.98
2926.	2.07	1.83
3149.	1.94	1.68
3533.	1.70	1.41
3974.	1.46	1.12
3972.	1.45	1.11
4167.	1.34	0.99
4362.	1.20	0.82
4384.	1.18	0.80
4409.	1.19	0.81
4619.	1.14	0.73
4634.	1.09	0.69
4677.	1.09	0.68
4664.	1.11	0.70
4661.	1.08	0.68

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.88


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-161
SEA FLOOR
CONDUCTIVITY

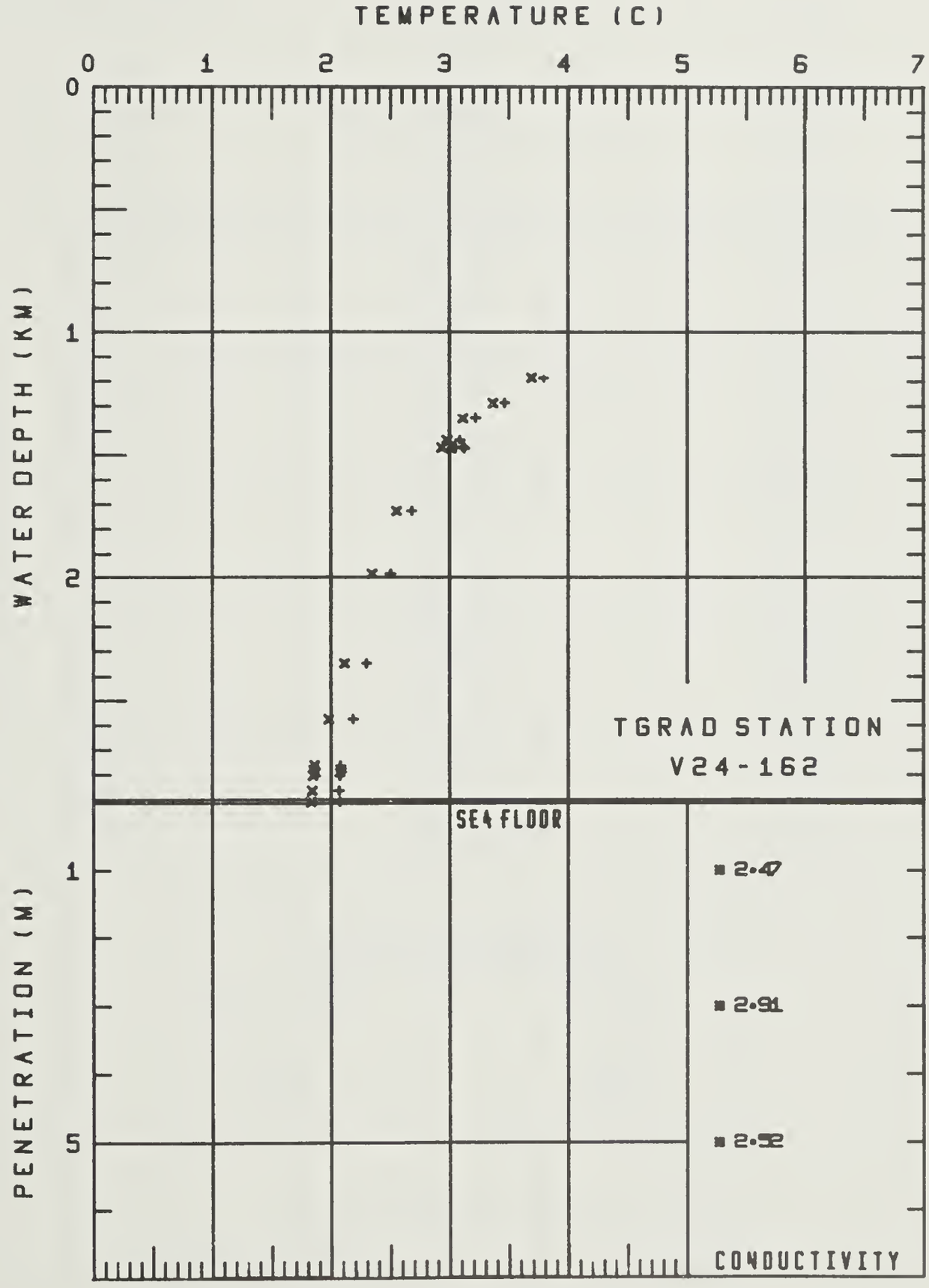
TGRAD STATION V24-162

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1184.	3.78	3.69
1287.	3.46	3.36
1349.	3.21	3.11
1470.	3.12	3.01
1464.	3.11	3.00
1437.	3.08	2.97
1468.	3.04	2.93
1727.	2.67	2.54
1984.	2.49	2.34
2349.	2.29	2.11
2575.	2.18	1.98
2760.	2.07	1.85
2790.	2.08	1.86
2777.	2.07	1.85
2803.	2.07	1.84
2865.	2.06	1.83
2910.	2.06	1.83

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.47
3.00	2.91
5.00	2.52


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
PENETRATION (M)
1
5
TGRAD STATION
V24-162
SEA FLOOR
= 2.47
= 2.91
= 2.52
CONDUCTIVITY

TGRAD STATION V24-163

WATER TEMPERATURES

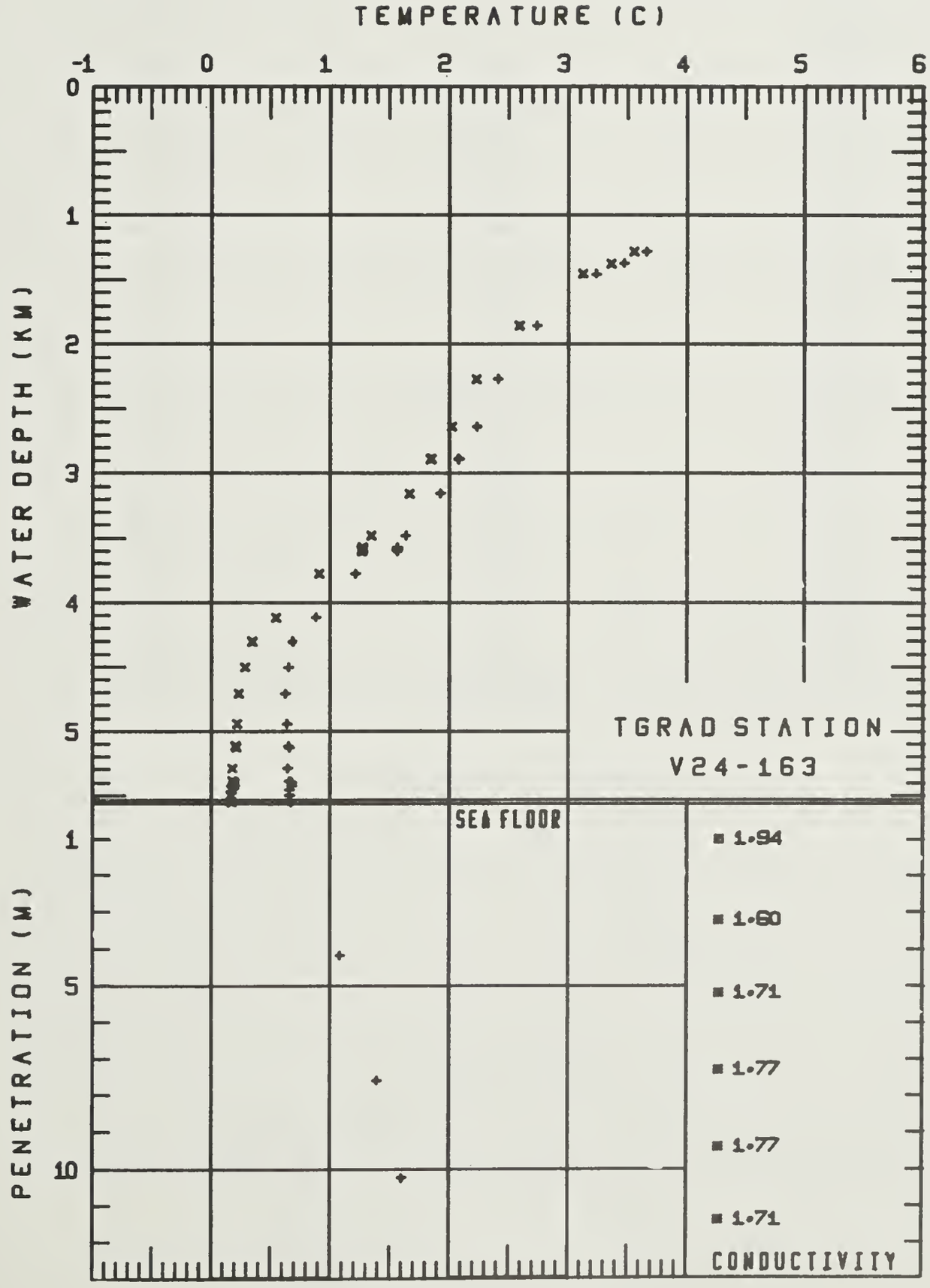
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1277.	3.65	3.55
1372.	3.46	3.35
1451.	3.23	3.11
1848.	2.72	2.58
2265.	2.40	2.22
2632.	2.23	2.01
2879.	2.07	1.84
2886.	2.07	1.84
3149.	1.92	1.66
3481.	1.63	1.34
3600.	1.56	1.26
3587.	1.56	1.26
3572.	1.56	1.26
3586.	1.56	1.27
3771.	1.21	0.90
4114.	0.87	0.54
4299.	0.68	0.34
4303.	0.69	0.34
4505.	0.65	0.28
4705.	0.62	0.23
4941.	0.63	0.21
5122.	0.65	0.21
5111.	0.65	0.20
5285.	0.64	0.18
5385.	0.65	0.18
5419.	0.67	0.19
5394.	0.68	0.19
5390.	0.67	0.19
5453.	0.66	0.17
5493.	0.65	0.16
5550.	0.67	0.16

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.18	1.08
7.58	1.39
10.25	1.60

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.94
3.20	1.60
5.20	1.71
7.30	1.77
9.40	1.77


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-163
SEA FLOOR
PENETRATION (M)
1
5
10
= 1.94
= 1.80
= 1.71
= 1.77
= 1.77
= 1.71
CONDUCTIVITY

TGRAD STATION V24-164

WATER TEMPERATURES

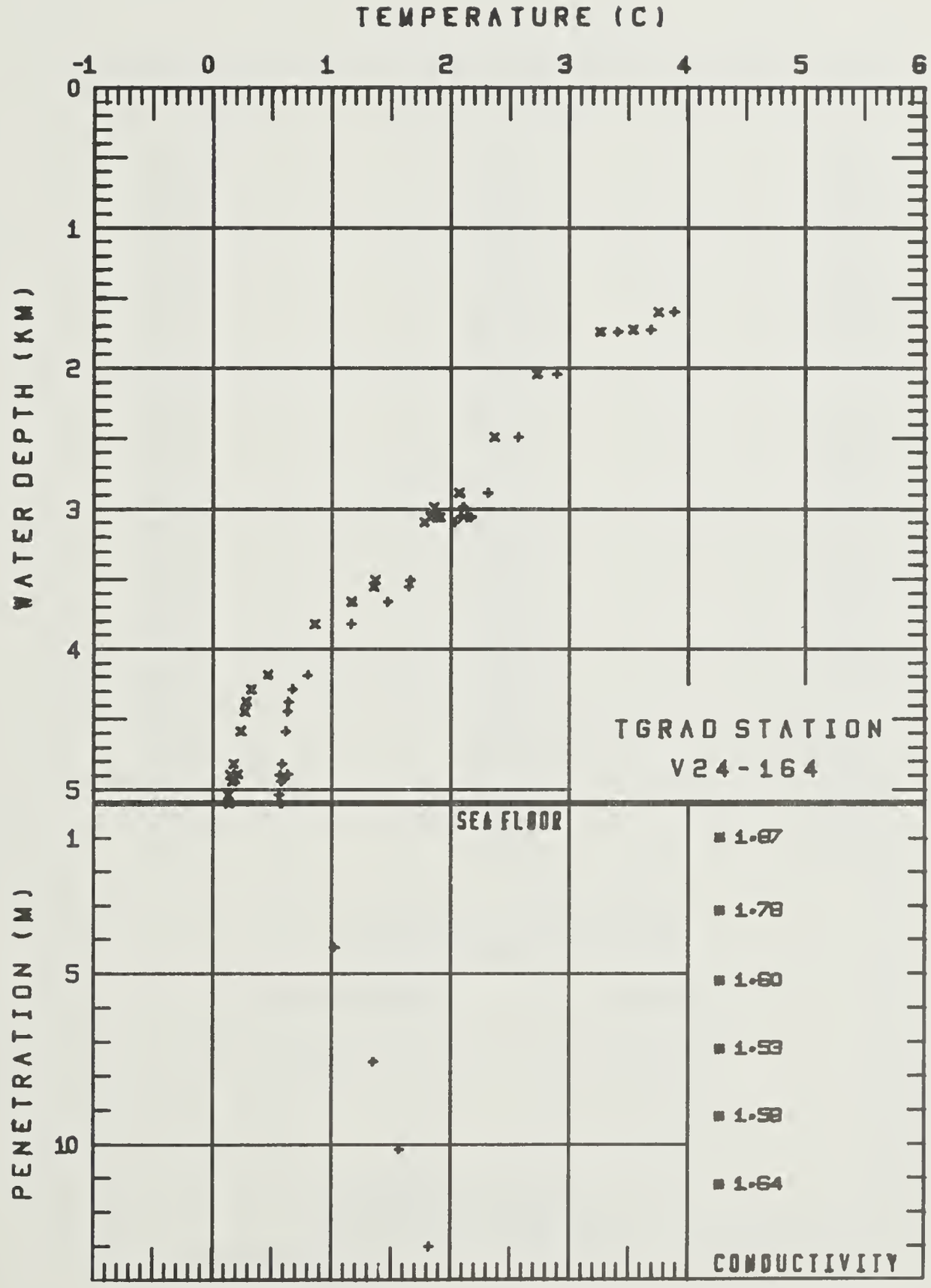
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
2040.	2.89	2.72
2881.	2.31	2.07
2986.	2.10	1.85
3045.	2.13	1.88
3061.	2.17	1.91
3061.	2.14	1.88
3052.	2.08	1.83
1596.	3.88	3.75
2490.	2.57	2.36
1725.	3.68	3.53
1742.	3.40	3.26
3090.	2.03	1.77
3549.	1.64	1.35
3507.	1.65	1.36
3657.	1.46	1.16
3816.	1.16	0.85
4180.	0.79	0.46
4282.	0.66	0.32
4441.	0.63	0.27
4376.	0.63	0.28
4584.	0.61	0.24
4817.	0.58	0.18
4921.	0.60	0.18
4890.	0.62	0.21
4893.	0.56	0.15
4940.	0.58	0.16
5035.	0.56	0.13
5098.	0.57	0.14

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.23	1.02
7.58	1.34
10.15	1.57
12.99	1.82

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.87
3.15	1.78
5.20	1.60
7.20	1.53
9.20	1.58
11.20	1.64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-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
5
PENETRATION (M)
1
5
10
TGRAD STATION
V24-164
SEA FLOOR
= 1.67
= 1.78
= 1.80
= 1.83
= 1.98
= 1.64
CONDUCTIVITY

TGRAD STATION V24-165

WATER TEMPERATURES

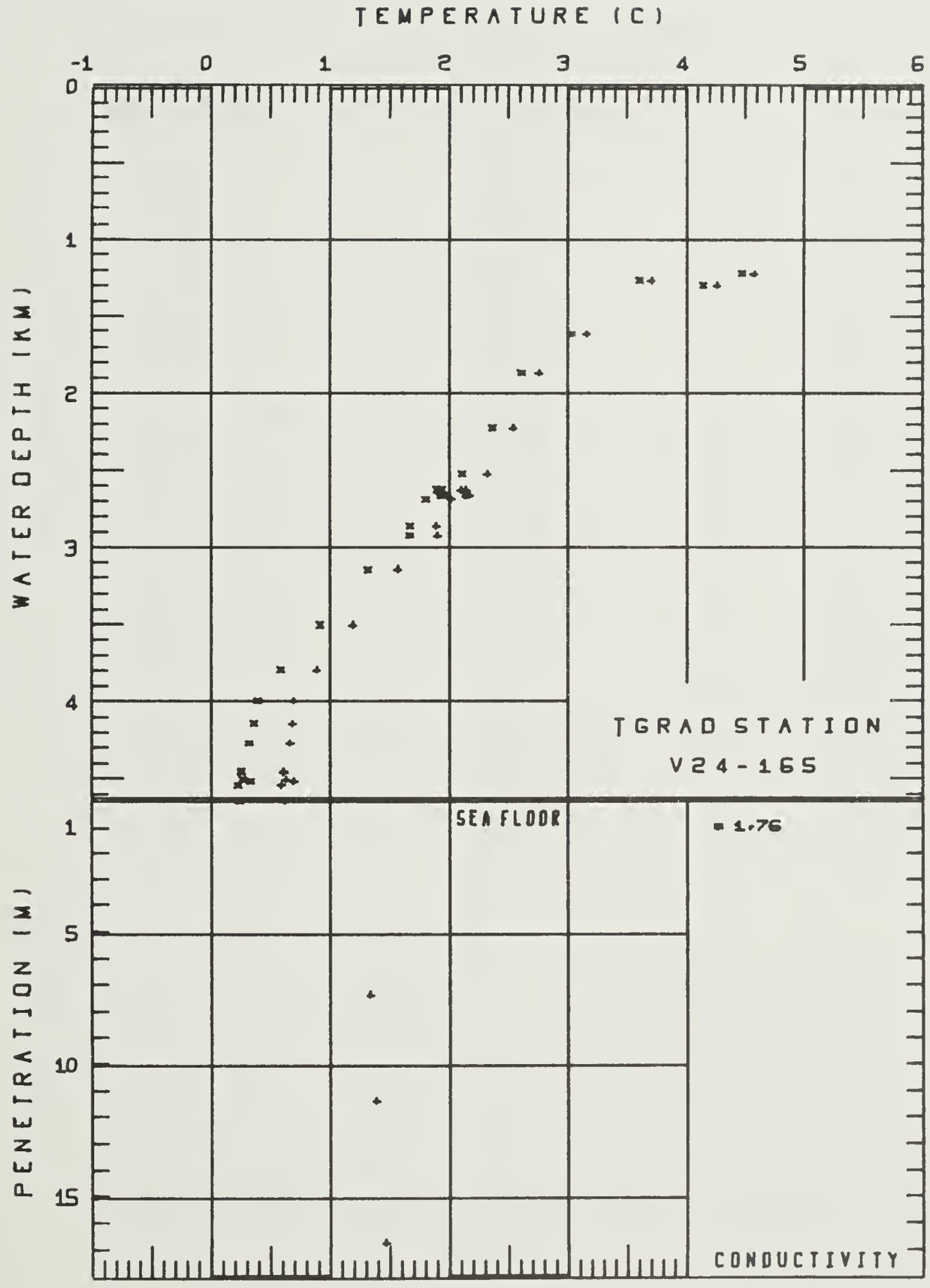
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1209.	4.57	4.46
1287.	4.25	4.14
1257.	3.70	3.60
1611.	3.15	3.02
1860.	2.75	2.61
2215.	2.54	2.36
2515.	2.31	2.11
2658.	2.14	1.93
2653.	2.17	1.96
2616.	2.14	1.93
2626.	2.13	1.92
2619.	2.10	1.89
2686.	2.01	1.80
2857.	1.89	1.66
2917.	1.90	1.67
3138.	1.56	1.31
3501.	1.19	0.92
3787.	0.89	0.59
3988.	0.70	0.39
4267.	0.67	0.32
4131.	0.69	0.36
4453.	0.61	0.25
4509.	0.70	0.33
4444.	0.61	0.25
4498.	0.63	0.27
4542.	0.59	0.22
4639.	0.62	0.24

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.76

SEDIMENT TEMPERATURES

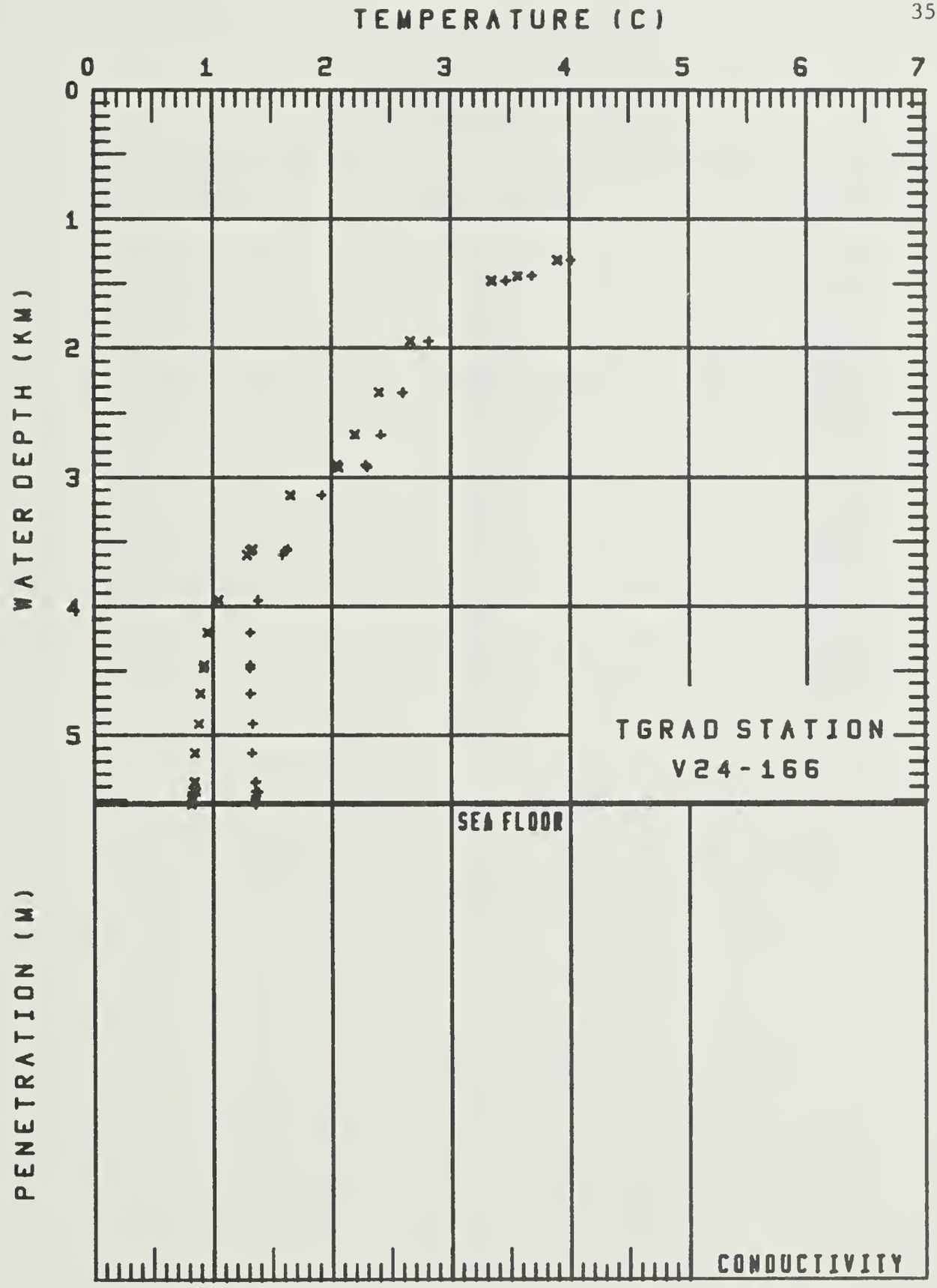
Depth	Temperature
7.35	.72
11.36	.77
16.72	.85


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-165
SEA FLOOR
PENETRATION (M)
1
5
10
15
= 1.76
CONDUCTIVITY

TGRAD STATION V24-166

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1317.	4.00	3.90
1438.	3.68	3.56
1473.	3.46	3.34
1942.	2.81	2.66
2342.	2.59	2.40
2669.	2.41	2.19
2918.	2.30	2.05
2904.	2.28	2.04
3136.	1.91	1.65
3550.	1.63	1.33
3567.	1.61	1.31
3558.	1.63	1.33
3597.	1.59	1.29
3944.	1.38	1.05
4195.	1.31	0.95
4477.	1.31	0.92
4452.	1.32	0.92
4673.	1.32	0.90
4906.	1.33	0.88
5134.	1.33	0.85
5357.	1.36	0.84
5354.	1.36	0.85
5429.	1.36	0.83
5434.	1.38	0.86
5464.	1.36	0.83
5490.	1.35	0.82
5532.	1.36	0.82


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-166
SEA FLOOR
PENETRATION (M)
CONDUCTIVITY

TGRAD STATION V24-167

WATER TEMPERATURES

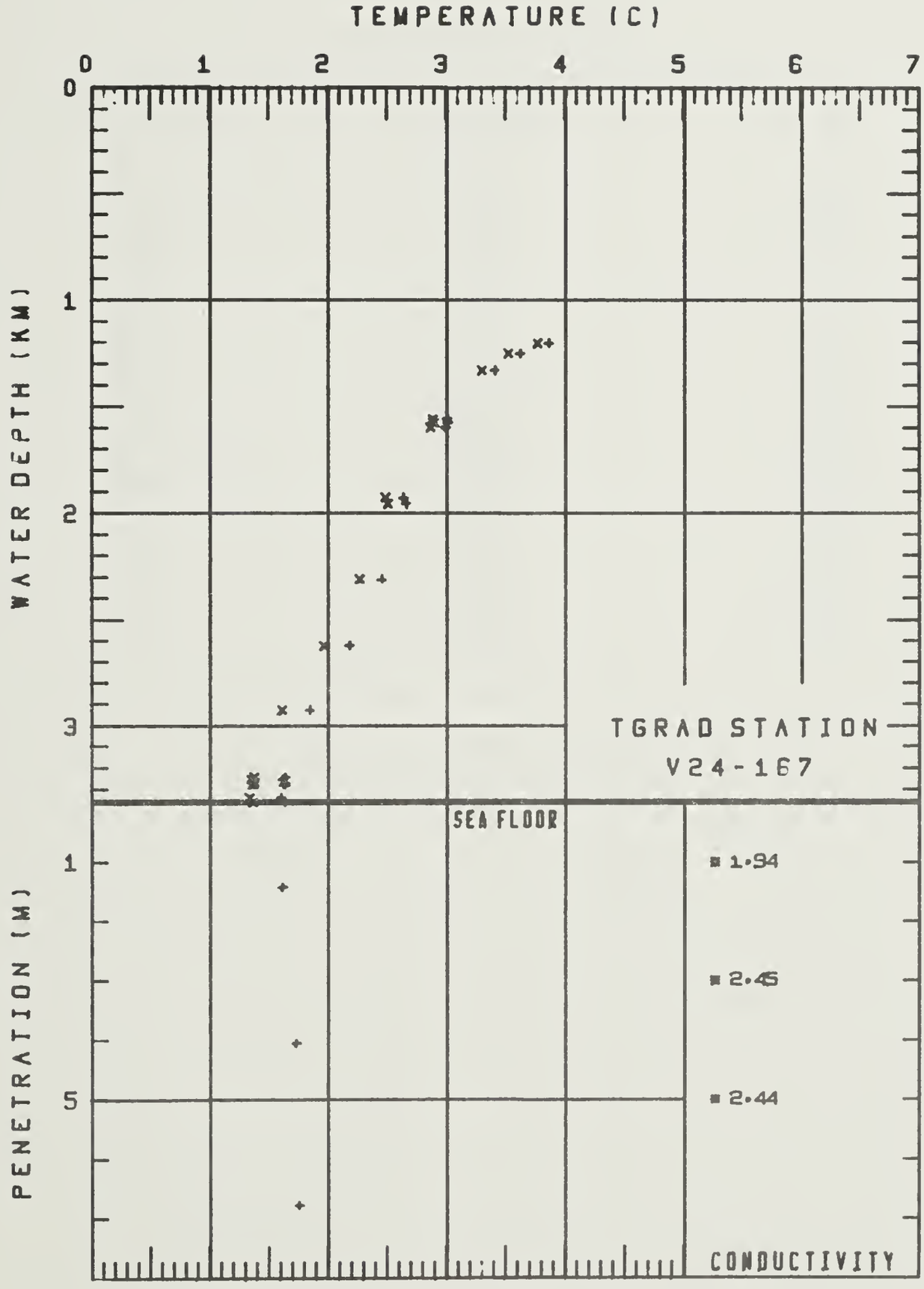
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1201.	3.86	3.76
1251.	3.62	3.52
1328.	3.41	3.30
1556.	3.01	2.89
1577.	3.02	2.89
1598.	2.99	2.87
1957.	2.66	2.51
1925.	2.64	2.49
2312.	2.45	2.27
2624.	2.18	1.97
2928.	1.85	1.61
3278.	1.64	1.38
3267.	1.64	1.38
3239.	1.64	1.38
3252.	1.62	1.35
3276.	1.63	1.36
3360.	1.64	1.36
3338.	1.61	1.34

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.43	1.62
4.05	1.73
6.77	1.76

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.94
3.00	2.45
5.00	2.44


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-167
SEA FLOOR
PENETRATION (M)
1
5
= 1.94
= 2.45
= 2.44
CONDUCTIVITY

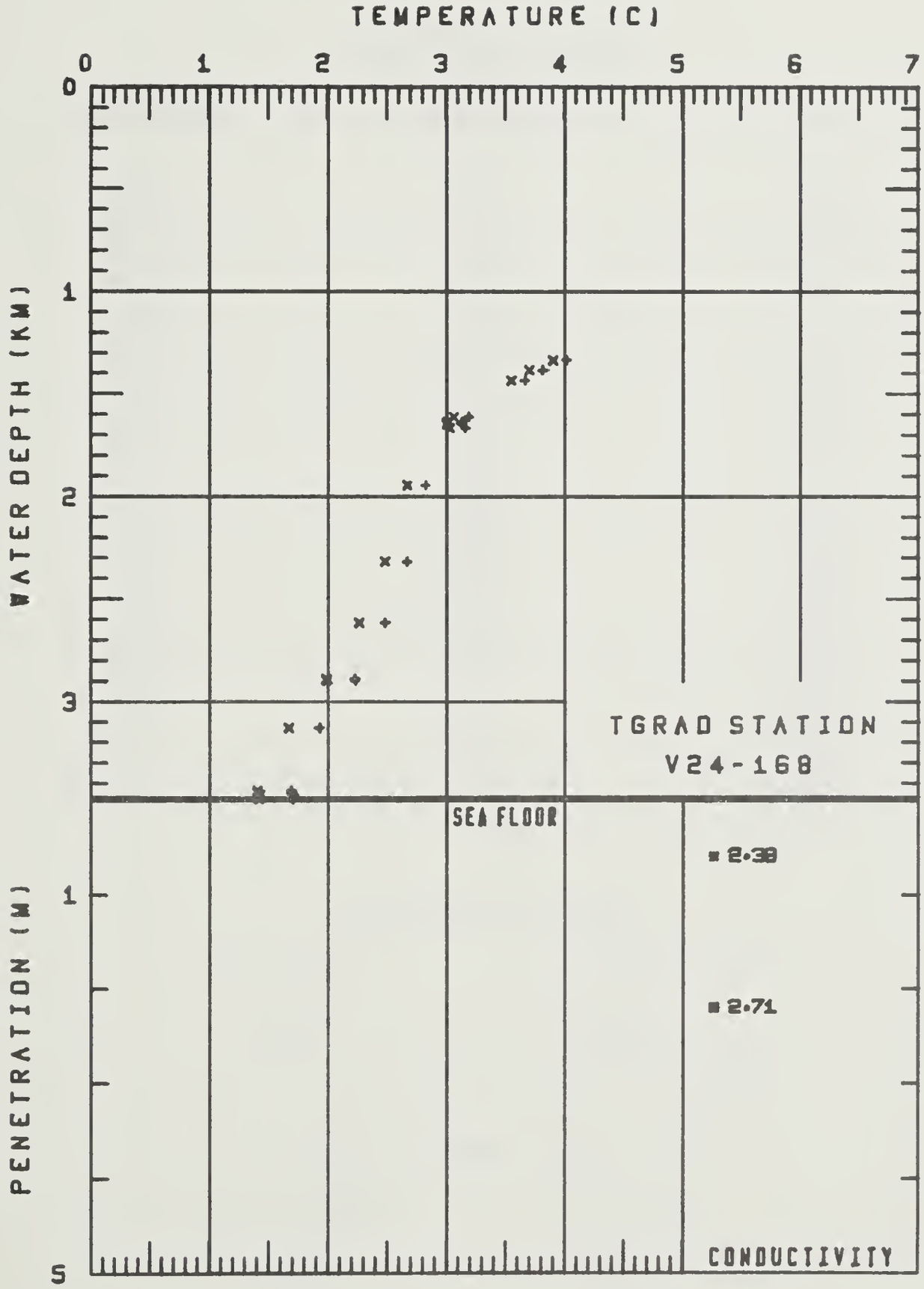
TGRAD STATION V24-168

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1332.	4.01	3.90
1383.	3.81	3.70
1433.	3.66	3.55
1610.	3.19	3.06
1665.	3.16	3.03
1632.	3.13	3.01
1647.	3.13	3.00
1640.	3.13	3.00
1945.	2.82	2.67
2317.	2.67	2.48
2616.	2.48	2.26
2898.	2.23	1.99
2890.	2.23	1.99
3130.	1.93	1.67
3453.	1.71	1.43
3444.	1.69	1.41
3435.	1.69	1.41
3468.	1.69	1.41
3476.	1.71	1.42

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.60	2.38
2.20	2.71


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
PENETRATION (M)
1
5
TGRAD STATION
V24-168
SEA FLOOR
= 2.38
= 2.71
CONDUCTIVITY

TGRAD STATION V24-169

WATER TEMPERATURES

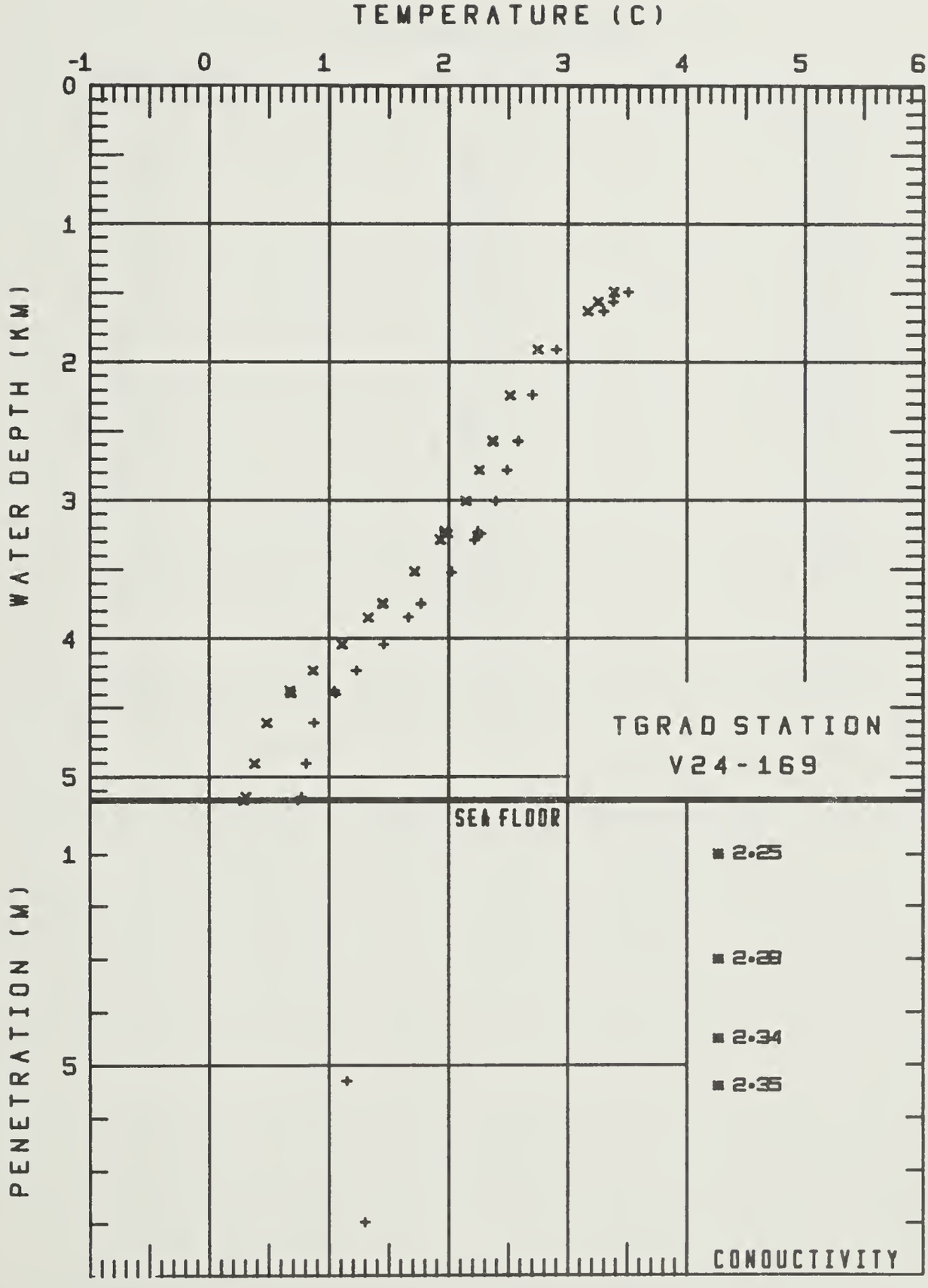
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
5172.	0.74	0.28
5143.	0.76	0.31
4902.	0.81	0.38
4610.	0.87	0.48
4394.	1.05	0.68
4372.	1.04	0.67
4227.	1.23	0.87
4040.	1.45	1.10
3844.	1.66	1.33
3740.	1.77	1.45
3748.	1.77	1.45
3512.	2.02	1.72
3278.	2.21	1.93
3216.	2.24	1.97
3234.	2.26	1.98
3238.	2.25	1.97
2998.	2.40	2.14
2773.	2.49	2.25
2569.	2.58	2.36
2565.	2.58	2.37
2237.	2.70	2.51
1902.	2.90	2.75
1626.	3.30	3.17
1559.	3.38	3.25
1489.	3.51	3.39

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
5.29	1.15
7.97	1.30

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.25
3.00	2.28
4.50	2.34
5.40	2.35


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-169
SEA FLOOR
PENETRATION (M)
1
5
■ 2.25
■ 2.28
■ 2.34
■ 2.35
CONDUCTIVITY

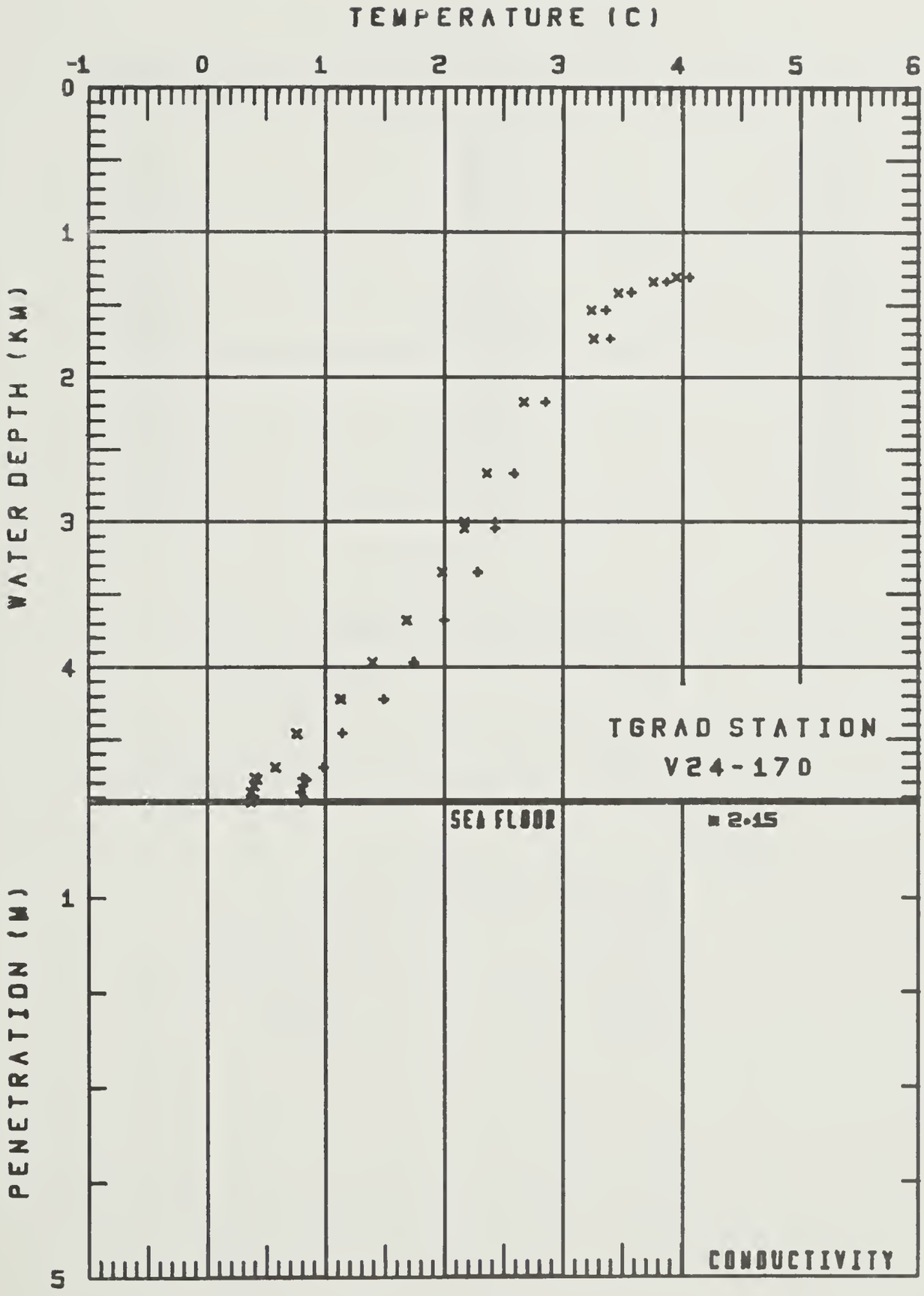
TGRAD STATION V24-170

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1303.	4.05	3.94
1338.	3.86	3.75
1415.	3.57	3.46
1536.	3.35	3.23
1732.	3.39	3.25
2168.	2.84	2.67
2666.	2.58	2.35
3040.	2.43	2.16
2998.	2.43	2.17
3342.	2.28	1.98
3681.	2.00	1.68
3969.	1.74	1.39
4223.	1.49	1.12
4223.	1.49	1.12
4455.	1.14	0.75
4694.	0.98	0.57
4919.	0.82	0.40
4777.	0.83	0.42
4763.	0.81	0.40
4817.	0.81	0.39
4862.	0.79	0.37
4934.	0.80	0.37

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.20	2.15


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-170
SEA FLOOR
= 2.15
PENETRATION (M)
1
5
CONDUCTIVITY

TGRAD STATION V24-171

WATER TEMPERATURES

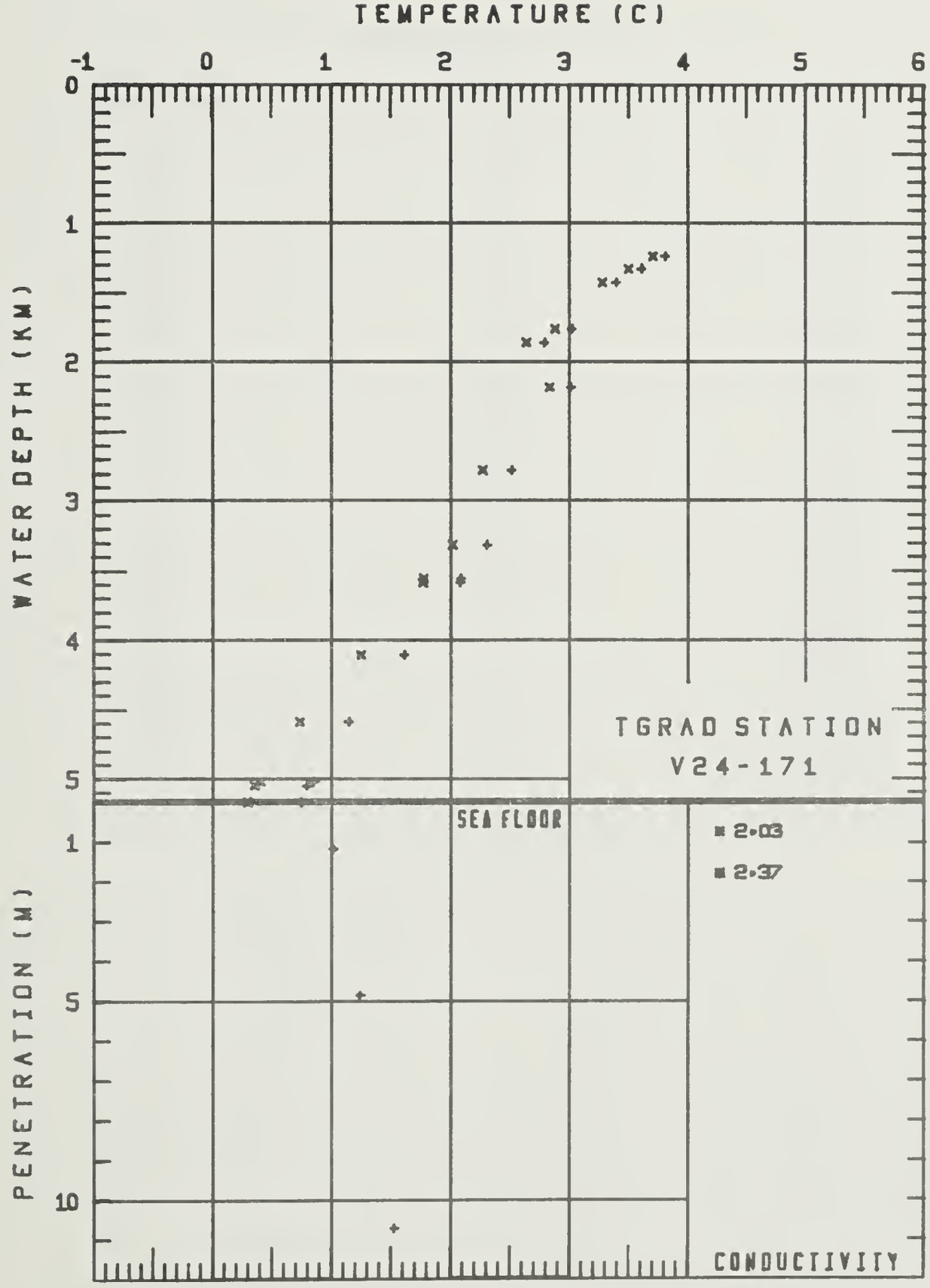
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1232.	3.80	3.70
1325.	3.60	3.49
1423.	3.39	3.27
1755.	3.01	2.88
1853.	2.78	2.63
2179.	3.01	2.83
2774.	2.50	2.27
3314.	2.30	2.01
3553.	2.09	1.77
3581.	2.08	1.77
4104.	1.61	1.25
4588.	1.14	0.74
5017.	0.85	0.41
5046.	0.80	0.35
5168.	0.75	0.29

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.17	1.01
4.86	1.24
10.72	1.53

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.75	2.03
1.80	2.37


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-171
SEA FLOOR
PENETRATION (M)
1
5
10
× 2.03
+ 2.37
CONDUCTIVITY

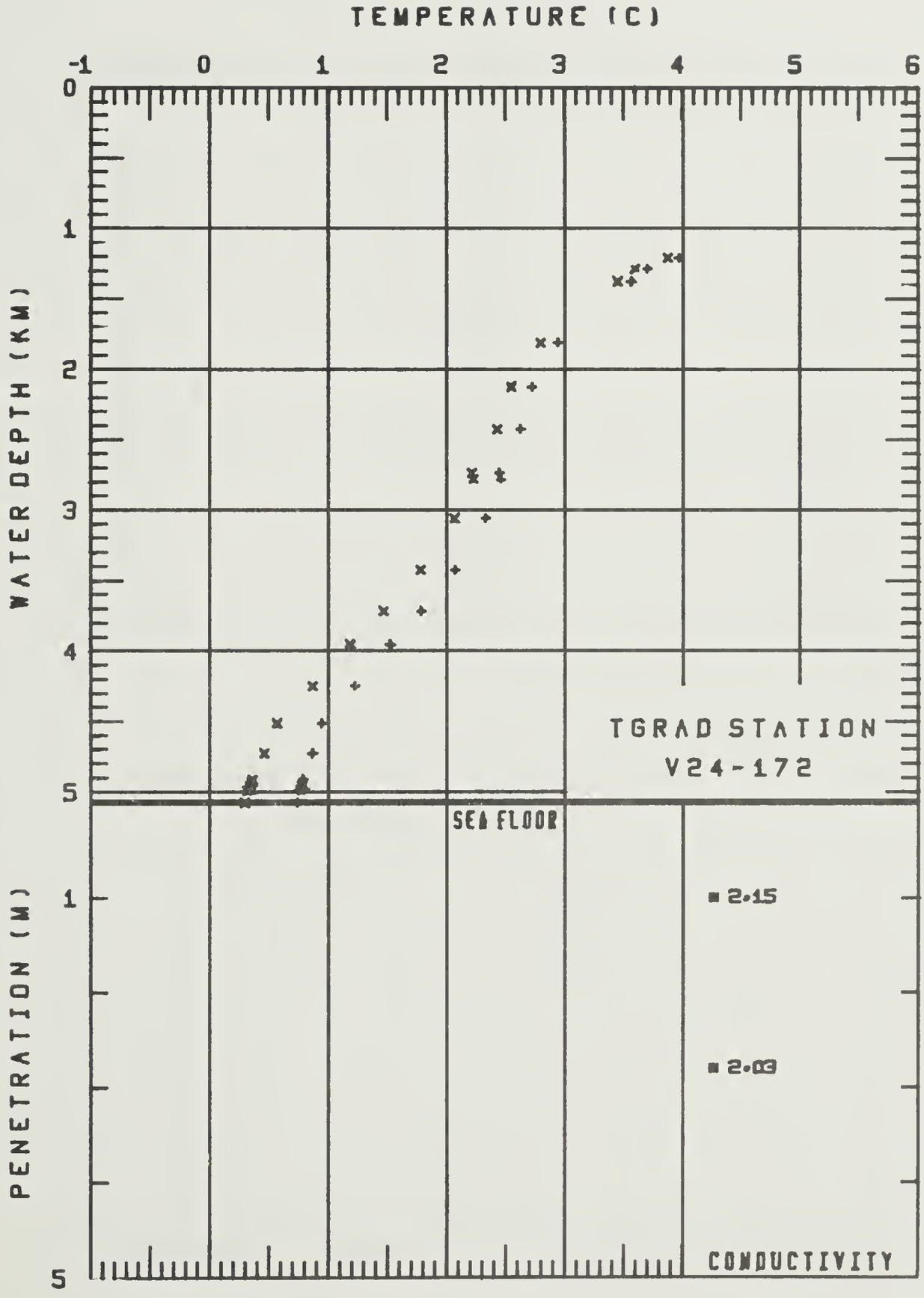
TGRAD STATION V24-172

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1205.	3.97	3.87
1284.	3.70	3.60
1374.	3.56	3.45
1811.	2.94	2.80
2126.	2.72	2.55
2422.	2.63	2.43
2737.	2.44	2.22
2783.	2.46	2.23
3057.	2.33	2.07
3425.	2.08	1.78
3715.	1.78	1.46
3954.	1.53	1.19
3950.	1.52	1.18
4249.	1.23	0.86
4513.	0.95	0.57
4727.	0.87	0.46
4911.	0.78	0.36
4928.	0.78	0.35
4984.	0.77	0.34
4959.	0.77	0.34
4966.	0.77	0.34
4982.	0.80	0.36
4993.	0.75	0.31
5075.	0.74	0.29

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.15
2.80	2.03


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-172
SEA FLOOR
PENETRATION (M)
1
5
■ 2.15
■ 2.03
CONDUCTIVITY

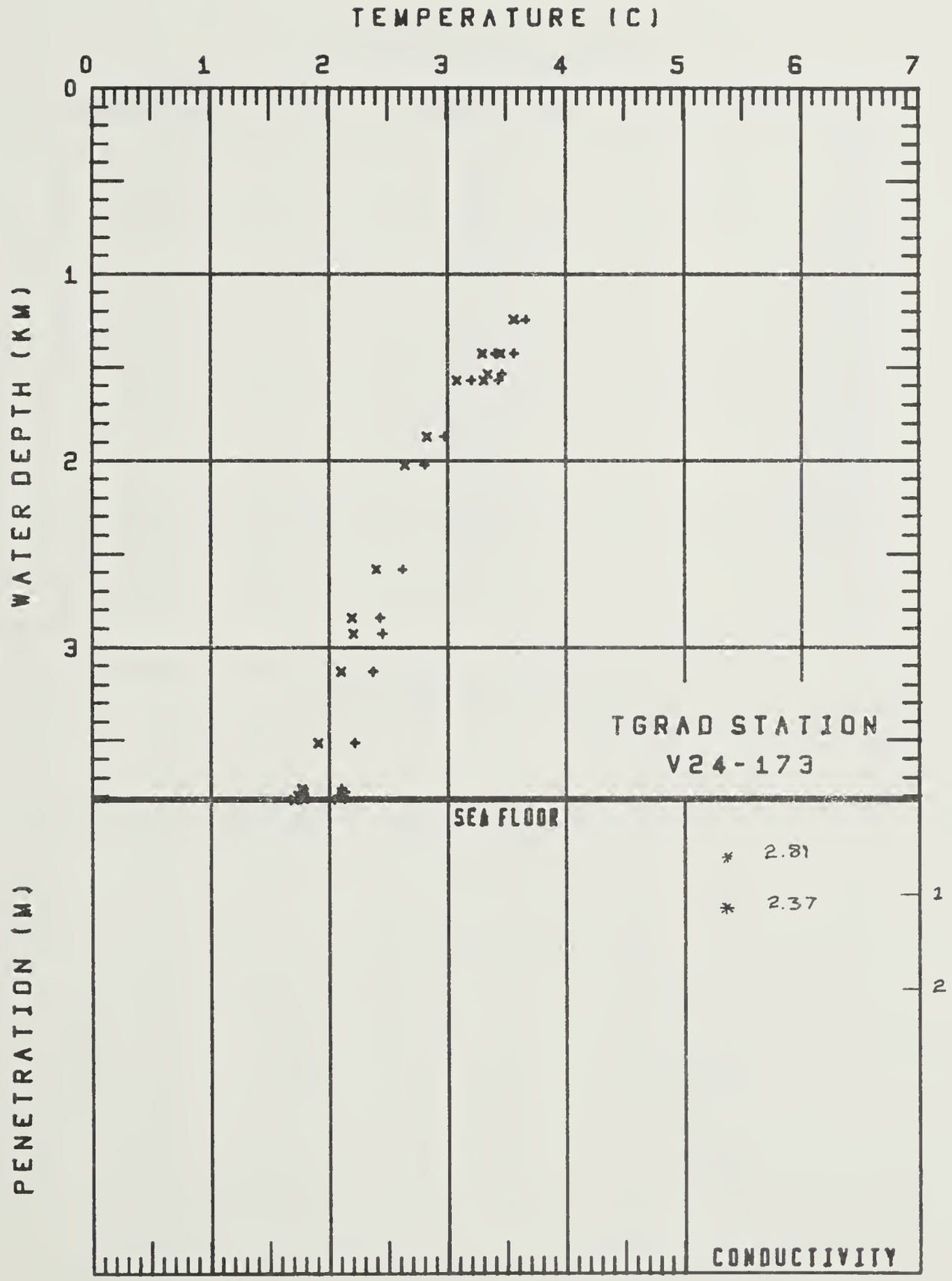
TGRAD STATION V24-173

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1244.	3.66	3.56
1425.	3.56	3.45
1423.	3.41	3.30
1537.	3.46	3.34
1571.	3.43	3.30
1571.	3.20	3.08
1870.	2.98	2.83
2024.	2.80	2.64
2583.	2.62	2.40
2843.	2.43	2.19
2925.	2.45	2.20
3130.	2.37	2.10
3510.	2.22	1.91
3757.	2.11	1.77
3799.	2.13	1.79
3774.	2.13	1.79
3794.	2.08	1.74
3814.	2.13	1.79
3816.	2.05	1.70

Sediment Conductivities

Depth	Conductivity
65	2.81
120	2.37


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-173
SEA FLOOR
PENETRATION (M)
* 2.81
* 2.37
1
2
CONDUCTIVITY

TGRAD STATION V24-174

WATER TEMPERATURES

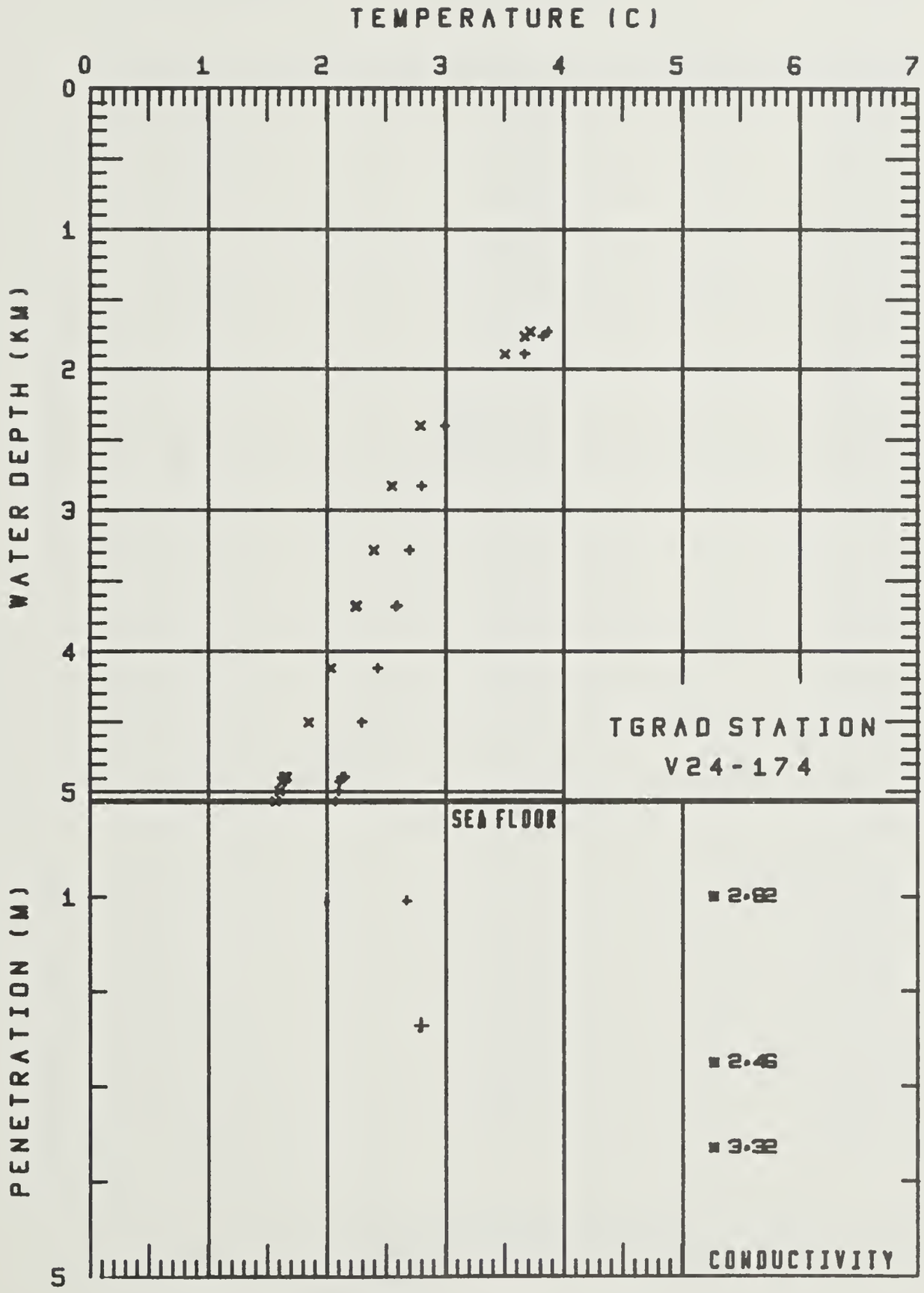
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1730.	3.86	3.71
1760.	3.82	3.67
1887.	3.67	3.50
3280.	2.69	2.39
3673.	2.59	2.25
3679.	2.58	2.24
4118.	2.43	2.03
4503.	2.29	1.85
4904.	2.14	1.64
4893.	2.15	1.66
4902.	2.13	1.64
4890.	2.13	1.64
4925.	2.11	1.62
4990.	2.10	1.60
5066.	2.08	1.56
2397.	2.99	2.79
2828.	2.80	2.55

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.05	2.71
2.35	2.80

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.82
2.75	2.46
3.65	3.32


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-174
SEA FLOOR
PENETRATION (M)
1
5
= 2.82
= 2.46
= 3.32
CONDUCTIVITY

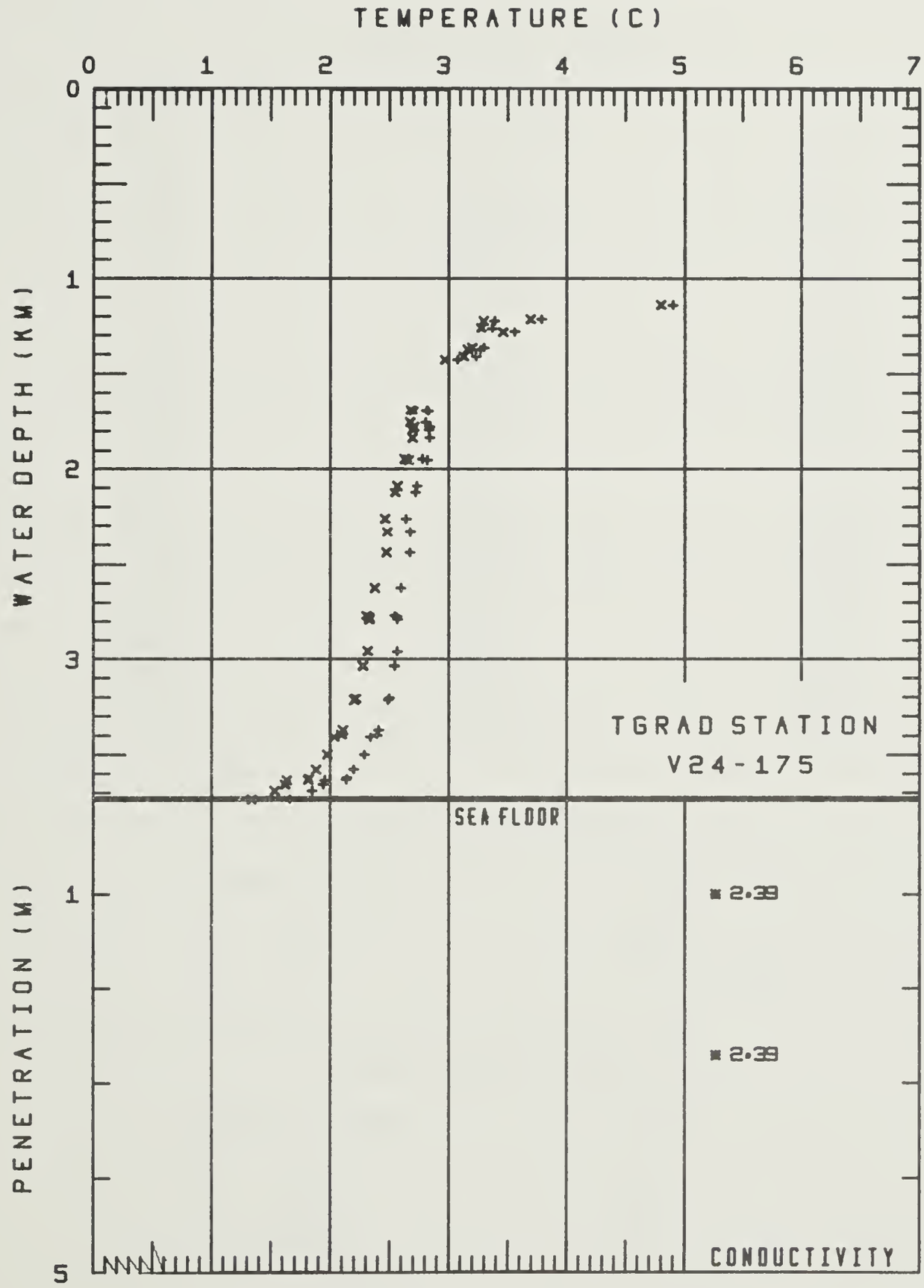
TGRAD STATION V24-175

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1137.	4.90	4.80
1210.	3.79	3.69
1277.	3.56	3.46
1362.	3.30	3.20
1408.	3.23	3.12
1688.	2.81	2.68
1794.	2.83	2.69
1833.	2.84	2.69
1948.	2.78	2.63
2086.	2.73	2.56
2261.	2.64	2.46
2435.	2.67	2.47
2768.	2.54	2.31
2777.	2.56	2.32
2955.	2.57	2.31
3205.	2.50	2.21
3408.	2.34	2.03
3367.	2.41	2.10
3395.	2.40	2.09
3575.	2.20	1.88
3631.	2.13	1.81
3656.	1.94	1.62
3734.	1.66	1.34
3686.	1.85	1.53
3636.	1.95	1.64
3621.	2.14	1.82
3496.	2.28	1.97
3211.	2.48	2.20
3028.	2.54	2.27
3031.	2.54	2.27
2789.	2.57	2.33
2622.	2.60	2.38
2326.	2.67	2.48
2121.	2.72	2.55
1949.	2.82	2.66
1750.	2.81	2.67
1777.	2.84	2.70
1691.	2.83	2.70
1422.	3.07	2.96
1368.	3.27	3.16
1256.	3.37	3.27
1221.	3.39	3.29

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.09
2.80	2.04
3.90	2.25
5.70	2.36


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-175
SEA FLOOR
PENETRATION (M)
1
5
2.38
2.38
CONDUCTIVITY

TGRAD STATION V24-176

WATER TEMPERATURES

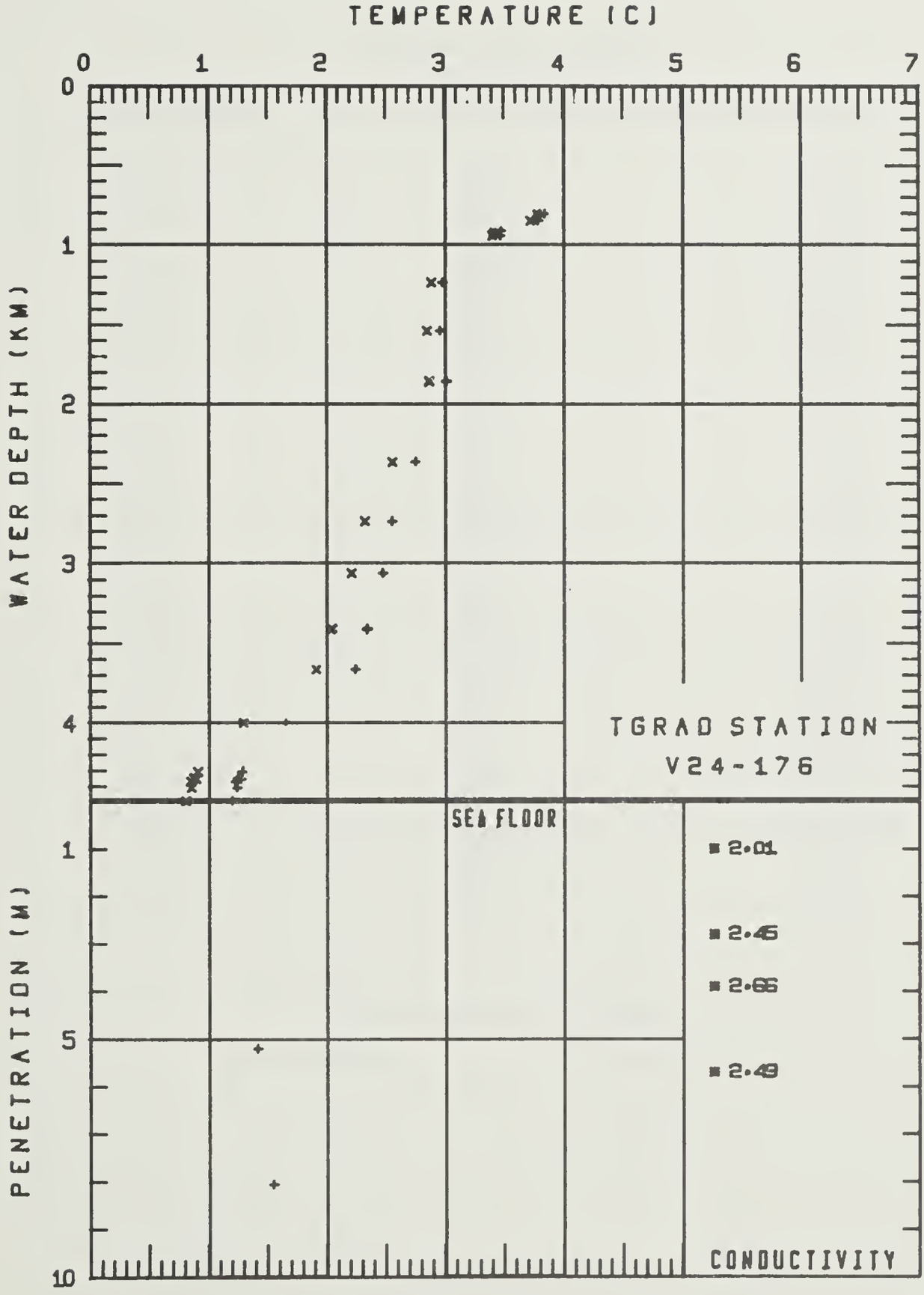
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
796.	3.84	3.78
842.	3.79	3.73
937.	3.47	3.40
908.	3.48	3.42
1233.	2.99	2.90
1538.	2.97	2.85
1850.	3.02	2.87
1856.	3.02	2.87
2358.	2.76	2.56
2735.	2.56	2.33
3056.	2.48	2.21
3407.	2.35	2.05
3412.	2.35	2.04
3660.	2.25	1.92
3998.	1.65	1.30
4302.	1.29	0.91
4344.	1.26	0.88
4348.	1.28	0.90
4343.	1.25	0.88
4366.	1.23	0.86
4404.	1.25	0.86
4489.	1.20	0.81

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
5.20	1.42
8.05	1.55

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.01
2.80	2.45
3.90	2.66
5.70	2.49


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-176
= 2.01
= 2.45
= 2.66
= 2.48
CONDUCTIVITY

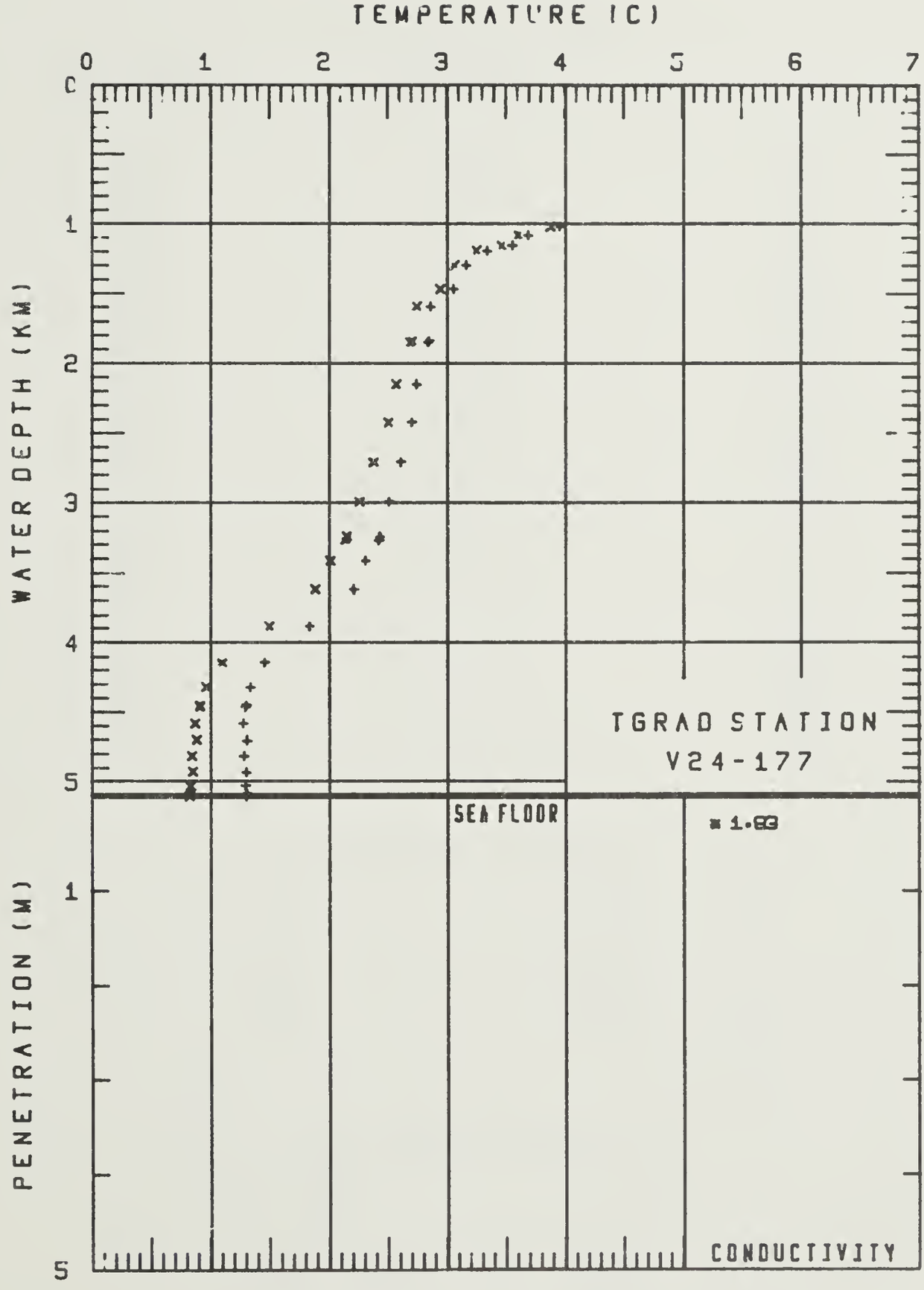
TGRAD STATION V24-177

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
5100.	1.30	0.82
5076.	1.31	0.84
5028.	1.29	0.83
4924.	1.30	0.85
4809.	1.28	0.84
4699.	1.30	0.88
4580.	1.27	0.87
4460.	1.30	0.90
4451.	1.30	0.91
4317.	1.33	0.96
4142.	1.46	1.10
3883.	1.84	1.49
3614.	2.21	1.88
3411.	2.31	2.01
3235.	2.43	2.15
3262.	2.42	2.13
2987.	2.51	2.25
2702.	2.60	2.38
2421.	2.70	2.50
2148.	2.74	2.57
1837.	2.85	2.70
1848.	2.83	2.69
1584.	2.86	2.74
1459.	3.05	2.94
1293.	3.16	3.06
1184.	3.34	3.25
1151.	3.55	3.46
1075.	3.69	3.60
1012.	3.96	3.88

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.30	1.83


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-177
SEA FLOOR
CONDUCTIVITY

TGRAD STATION V24-178

WATER TEMPERATURES

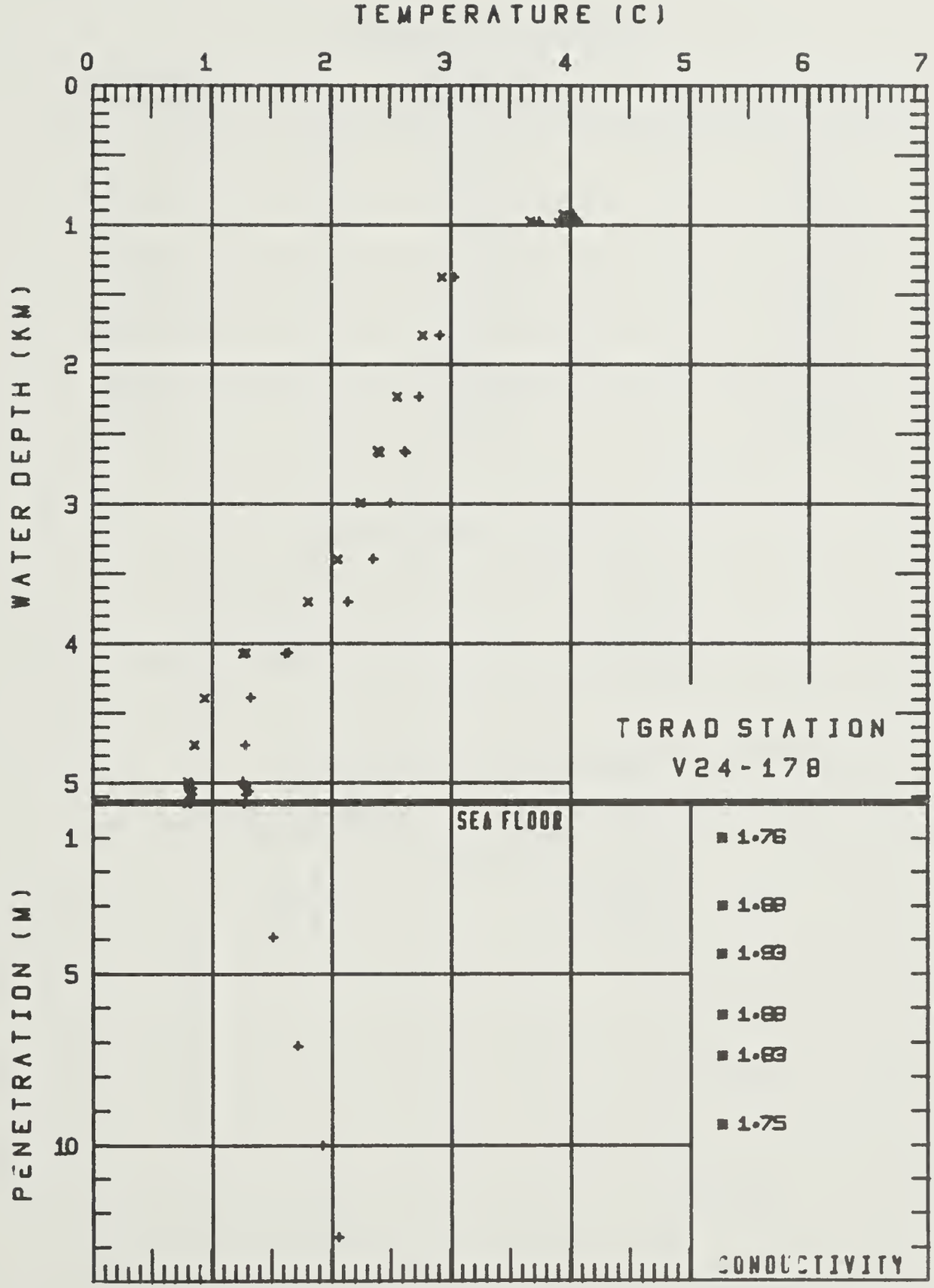
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
919.	4.01	3.94
956.	4.04	3.96
972.	4.06	3.98
984.	3.98	3.91
971.	3.74	3.67
1374.	3.03	2.93
1790.	2.90	2.76
2229.	2.73	2.55
2630.	2.63	2.41
2619.	2.62	2.40
2992.	2.50	2.24
3392.	2.35	2.05
3698.	2.14	1.81
4066.	1.64	1.28
4072.	1.62	1.26
4391.	1.33	0.94
4727.	1.28	0.85
4991.	1.26	0.80
5012.	1.27	0.80
5016.	1.28	0.82
5027.	1.28	0.81
5057.	1.30	0.83
5082.	1.28	0.81
5144.	1.27	0.79

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.91	1.51
7.10	1.72
10.01	1.93
12.69	2.06

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.76
3.00	1.88
4.40	1.93
6.20	1.88
7.40	1.83
9.40	1.75


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-178
SEA FLOOR
1.76
1.88
1.83
1.88
1.83
1.75
CONDUCTIVITY

TGRAD STATION V24-179

WATER TEMPERATURES

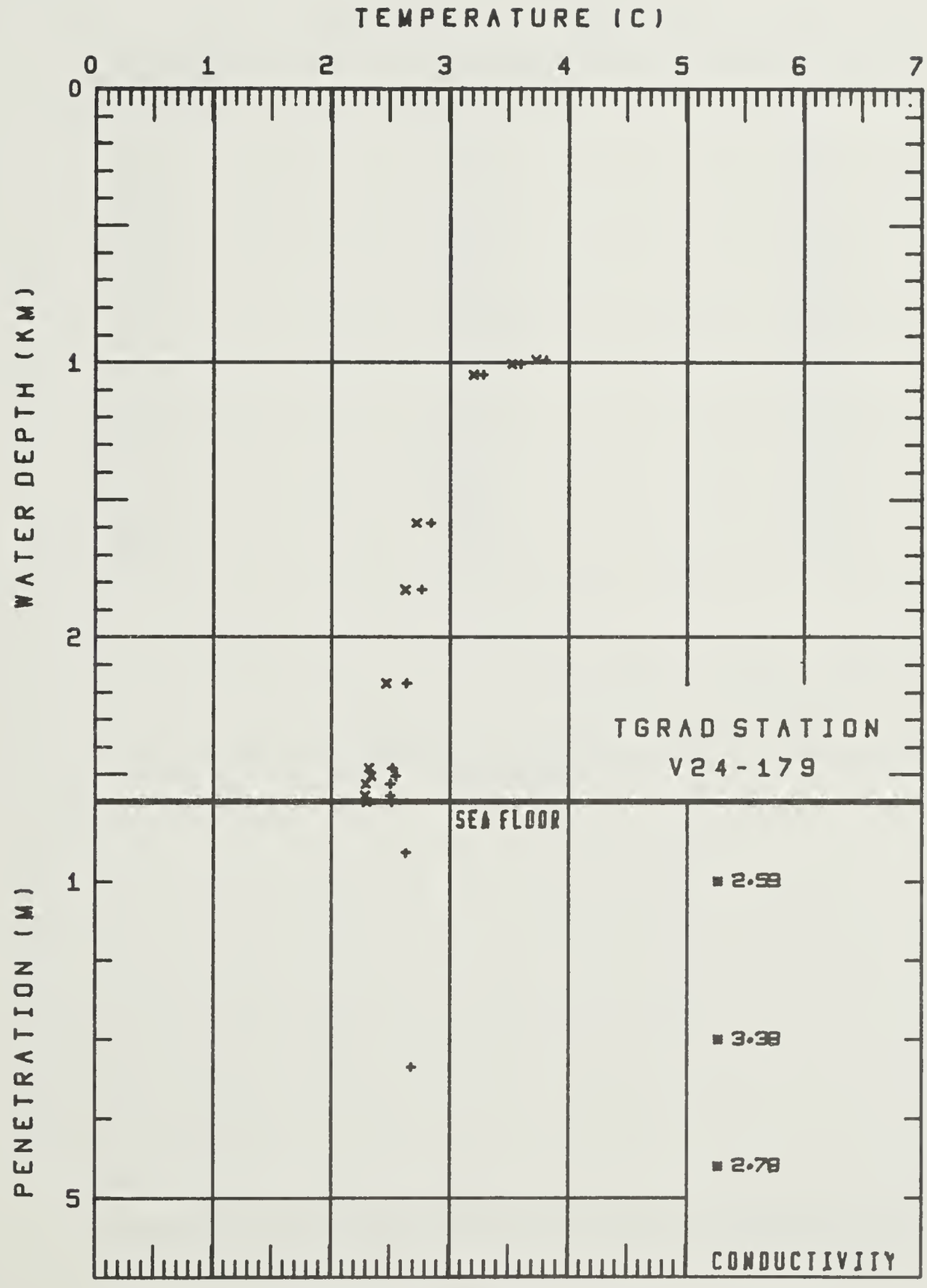
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
988.	3.81	3.73
1002.	3.60	3.52
1043.	3.28	3.20
1583.	2.84	2.72
1825.	2.76	2.62
2168.	2.64	2.46
2476.	2.52	2.32
2504.	2.55	2.34
2576.	2.50	2.29
2535.	2.50	2.29
2600.	2.51	2.30

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.64	2.63
3.35	2.68

SEDIMENT CONDUCTIVITIES

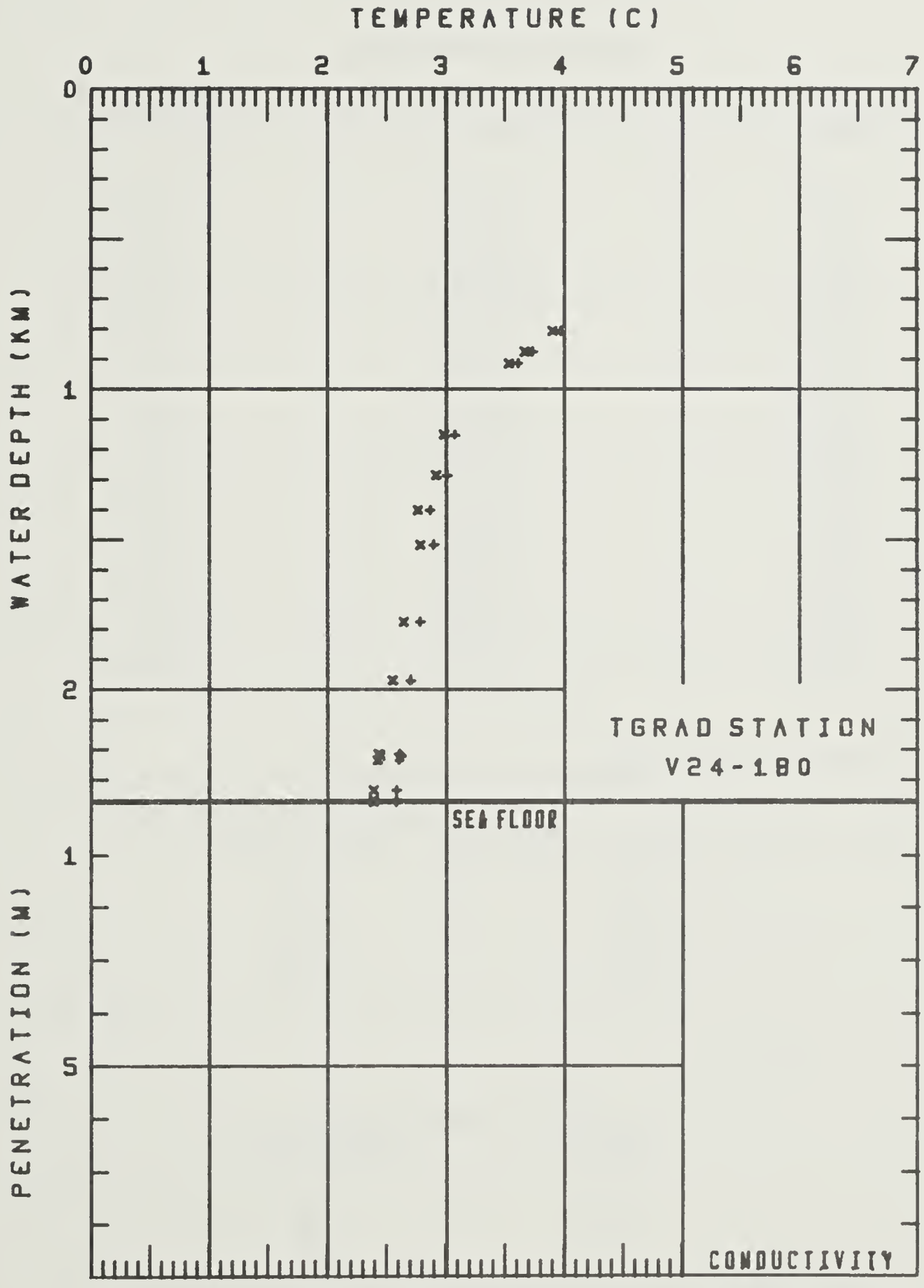
DEPTH	CONDUCTIVITY
1.00	2.59
3.00	3.38
4.60	2.78


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-179
SEA FLOOR
PENETRATION (M)
1
5
■ 2.98
■ 3.38
■ 2.78
CONDUCTIVITY

TGRAD STATION V24-180

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
804.	3.96	3.90
873.	3.73	3.66
913.	3.60	3.53
1151.	3.07	2.98
1283.	3.01	2.91
1401.	2.86	2.76
1517.	2.90	2.78
1773.	2.78	2.64
1968.	2.70	2.54
2215.	2.61	2.44
2222.	2.62	2.44
2213.	2.60	2.43
2233.	2.60	2.42
2335.	2.58	2.39
2365.	2.58	2.39
2374.	2.58	2.38


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
PENETRATION (M)
1
5
TGRAD STATION
V24-180
SEA FLOOR
CONDUCTIVITY

TGRAD STATION V24-181

WATER TEMPERATURES

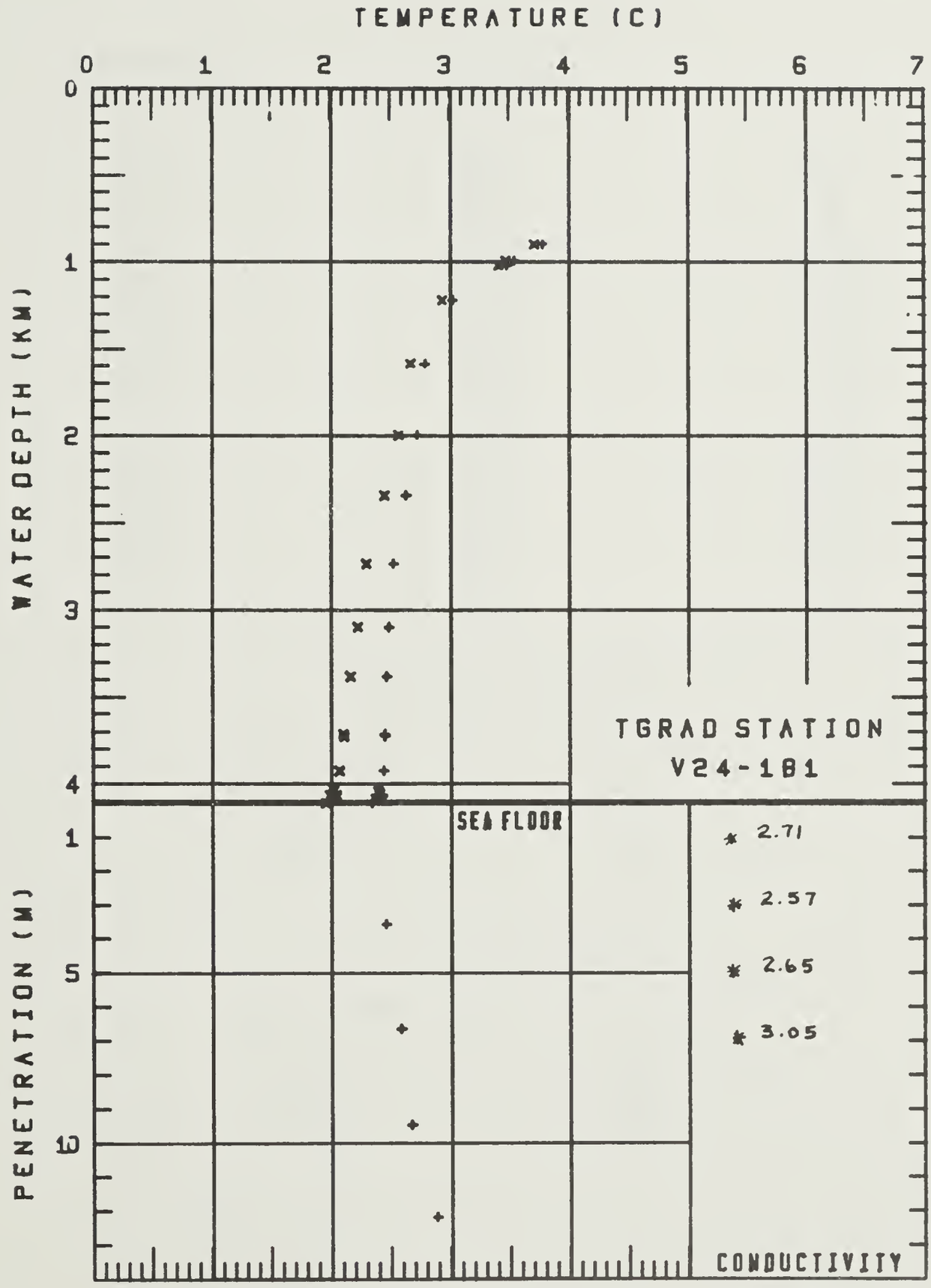
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
895.	3.78	3.71
993.	3.54	3.46
1016.	3.48	3.40
1218.	3.02	2.93
1583.	2.79	2.67
1993.	2.73	2.57
2343.	2.63	2.44
2343.	2.63	2.44
2736.	2.52	2.29
3103.	2.49	2.22
3384.	2.47	2.16
3725.	2.45	2.11
3711.	2.44	2.10
3920.	2.44	2.07
4075.	2.43	2.04
4038.	2.40	2.02
4063.	2.42	2.04
4020.	2.39	2.01
4061.	2.38	1.99
4109.	2.34	1.95

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.58	2.46
6.66	2.58
9.48	2.67
12.19	2.88

Sediment Conductivities

Depth	Conductivity
1.00	2.71
3.00	2.57
5.00	2.65
7.00	3.05


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
PENETRATION (M)
1
5
10
TGRAD STATION
V24-181
SEA FLOOR
2.71
2.57
2.65
3.05
CONDUCTIVITY

TGRAD STATION V24-182

WATER TEMPERATURES

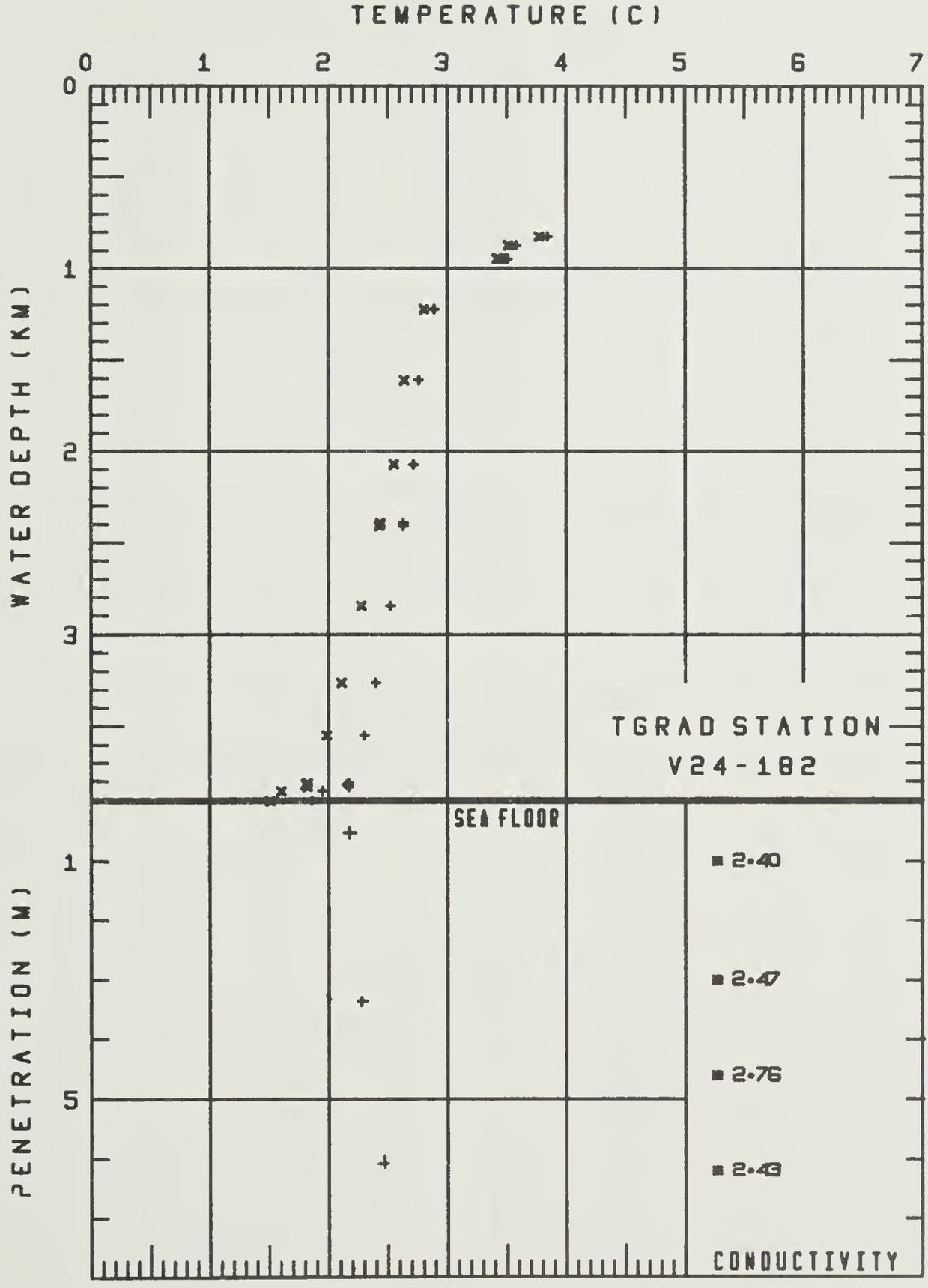
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
820.	3.83	3.77
870.	3.57	3.51
942.	3.50	3.43
943.	3.48	3.41
1220.	2.89	2.80
1606.	2.76	2.63
2069.	2.71	2.55
2392.	2.63	2.43
2407.	2.63	2.43
2841.	2.52	2.28
3264.	2.40	2.11
3551.	2.30	1.98
3822.	2.16	1.82
3830.	2.17	1.82
3811.	2.16	1.82
3817.	2.15	1.81
3855.	1.95	1.60
3910.	1.85	1.50

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.50	2.14
3.30	2.24
6.04	2.41

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.40
3.00	2.47
4.60	2.76
6.20	2.43


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-182
SEA FLOOR
PENETRATION (M)
1
5
■ 2.40
■ 2.47
■ 2.76
■ 2.43
CONDUCTIVITY

TGRAD STATION V24-183

WATER TEMPERATURES

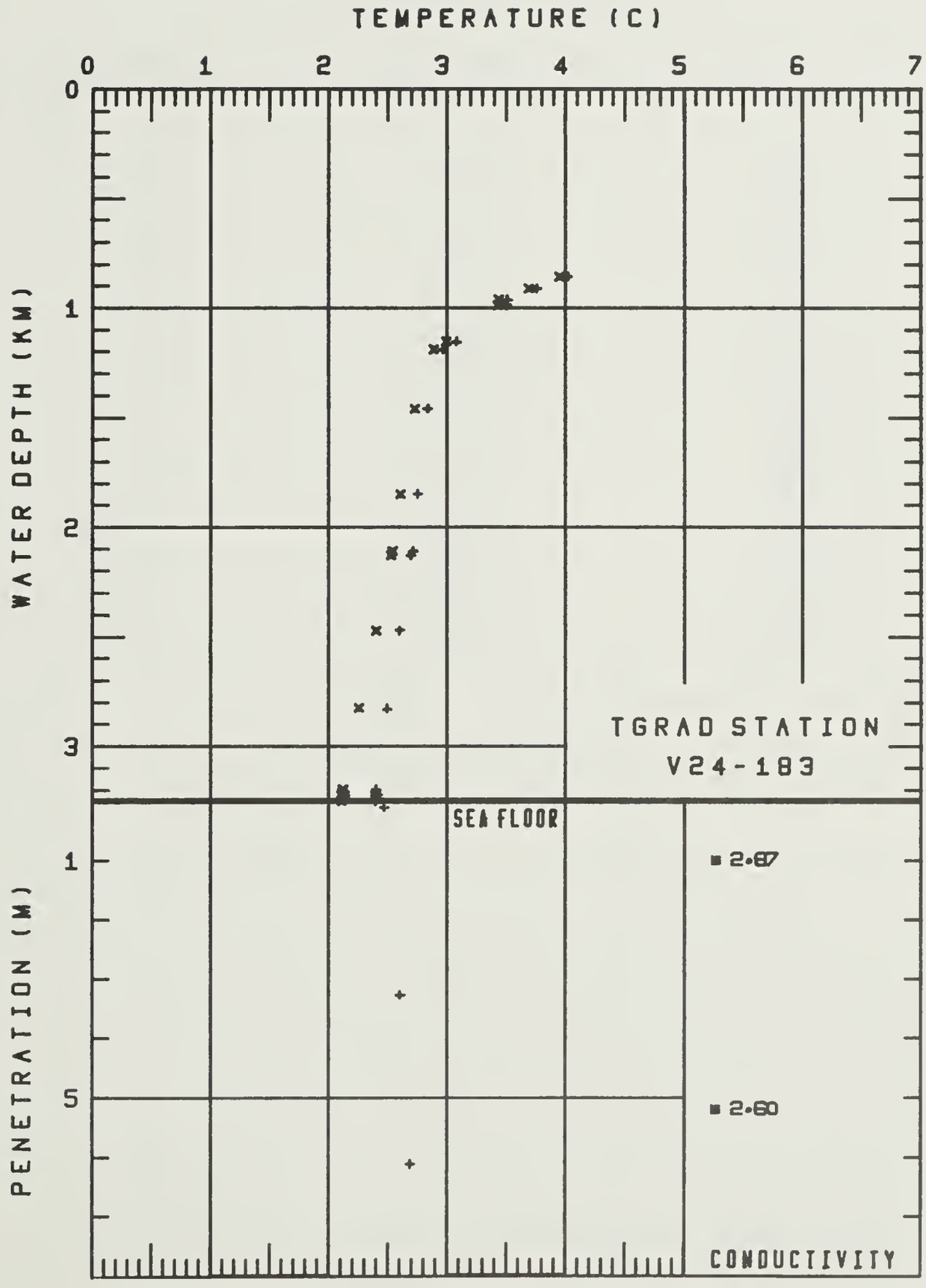
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
854.	4.01	3.95
909.	3.75	3.69
960.	3.51	3.44
987.	3.50	3.42
1152.	3.08	2.99
1187.	2.97	2.88
1458.	2.83	2.73
1848.	2.75	2.61
2107.	2.71	2.54
2127.	2.69	2.52
2469.	2.60	2.40
2828.	2.49	2.25
3194.	2.40	2.12
3209.	2.39	2.11
3237.	2.42	2.13
3220.	2.42	2.13
3224.	2.39	2.11
3249.	2.39	2.10

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.10	2.46
3.27	2.60
6.12	2.68

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.87
5.20	2.60


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-183
SEA FLOOR
PENETRATION (M)
1
5
■ 2.87
■ 2.80
CONDUCTIVITY

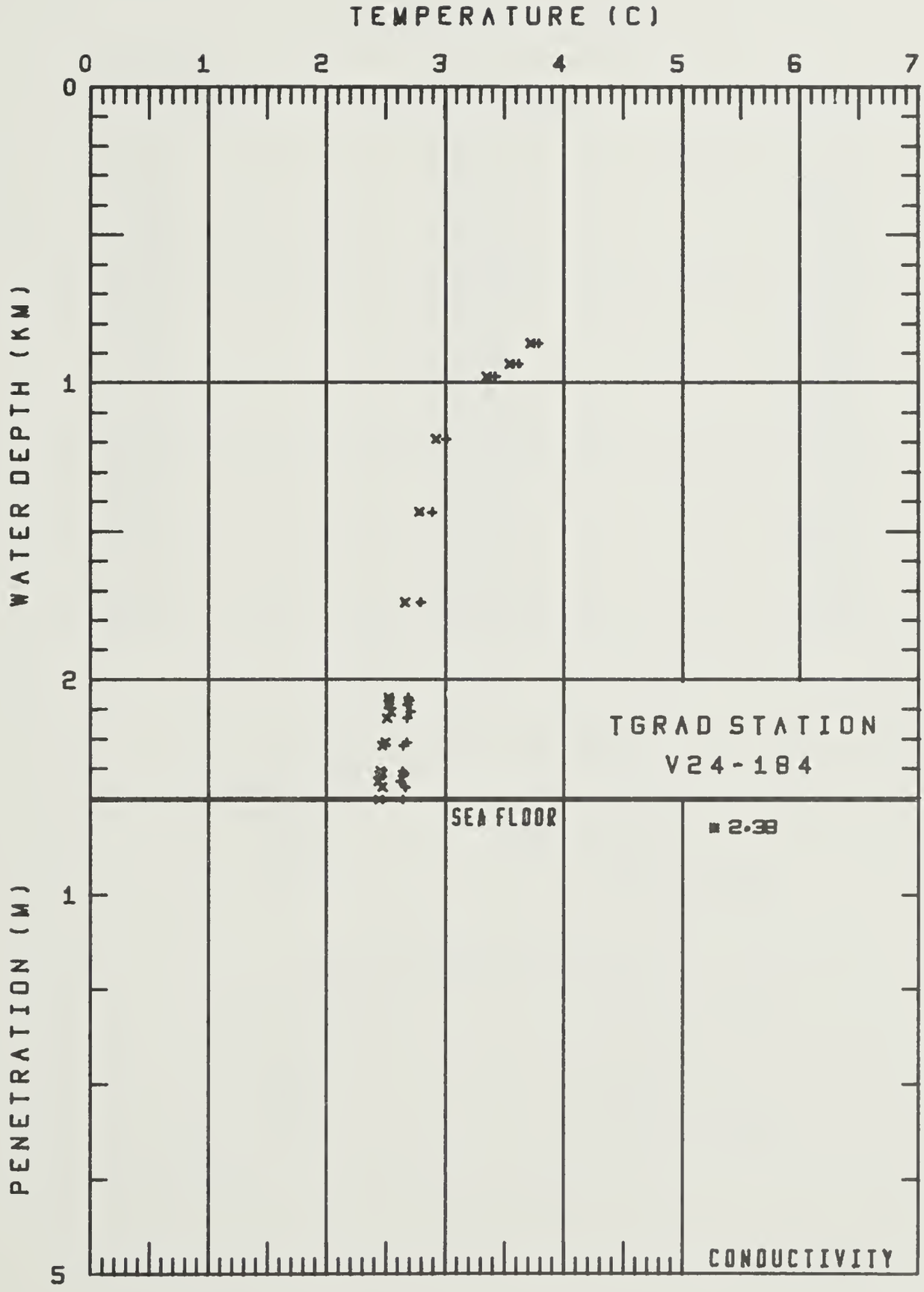
TGRAD STATION V24-184

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
866.	3.78	3.71
934.	3.61	3.54
979.	3.42	3.35
1187.	3.00	2.92
1434.	2.89	2.78
1737.	2.80	2.66
2107.	2.71	2.54
2068.	3.24	3.06
2210.	2.67	2.49
2222.	2.65	2.47
2324.	2.64	2.45
2317.	2.65	2.46
2360.	2.66	2.46
2128.	2.68	2.51
2058.	2.69	2.52
2069.	2.69	2.53
2084.	2.68	2.52
2306.	2.64	2.45
2341.	2.62	2.43
2404.	2.64	2.44

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
0.30	2.38


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-184
SEA FLOOR
PENETRATION (M)
1
5
= 2.38
CONDUCTIVITY

TGRAD STATION V24-185

WATER TEMPERATURES

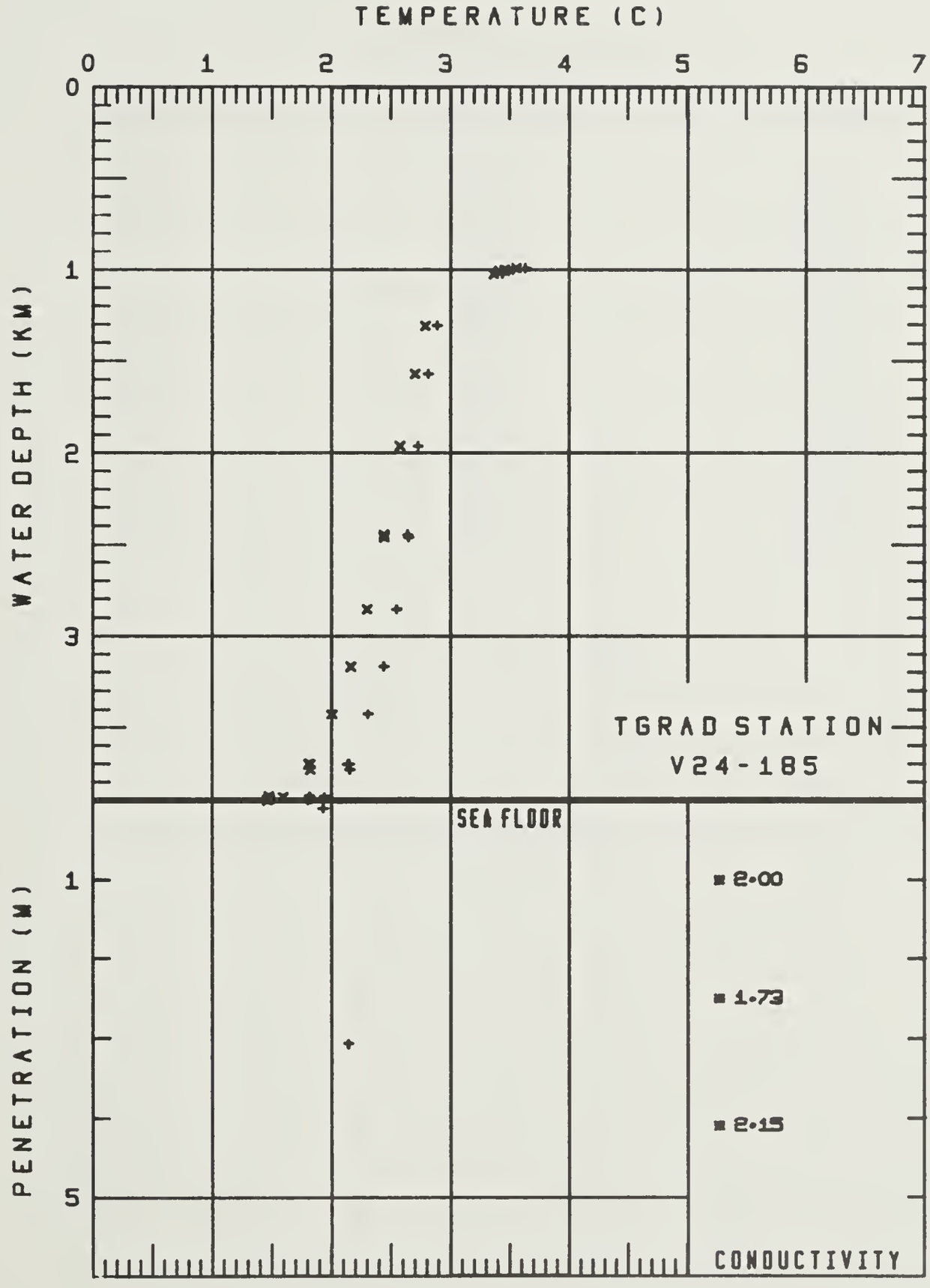
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
990.	3.63	3.55
998.	3.53	3.45
1006.	3.48	3.41
1021.	3.44	3.36
1302.	2.88	2.79
1566.	2.81	2.70
1963.	2.73	2.57
2448.	2.64	2.44
2460.	2.65	2.44
2856.	2.55	2.30
3167.	2.44	2.16
3426.	2.31	2.00
3699.	2.15	1.82
3731.	2.16	1.82
3698.	2.14	1.80
3875.	1.94	1.59
3891.	1.82	1.48
3874.	1.81	1.47
3898.	1.80	1.46

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.10	1.93
3.07	2.14

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.00
2.50	1.73
4.10	2.15


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
PENETRATION (M)
1
5
TGRAD STATION
V24-185
SEA FLOOR
= 2.00
= 1.73
= 2.15
CONDUCTIVITY

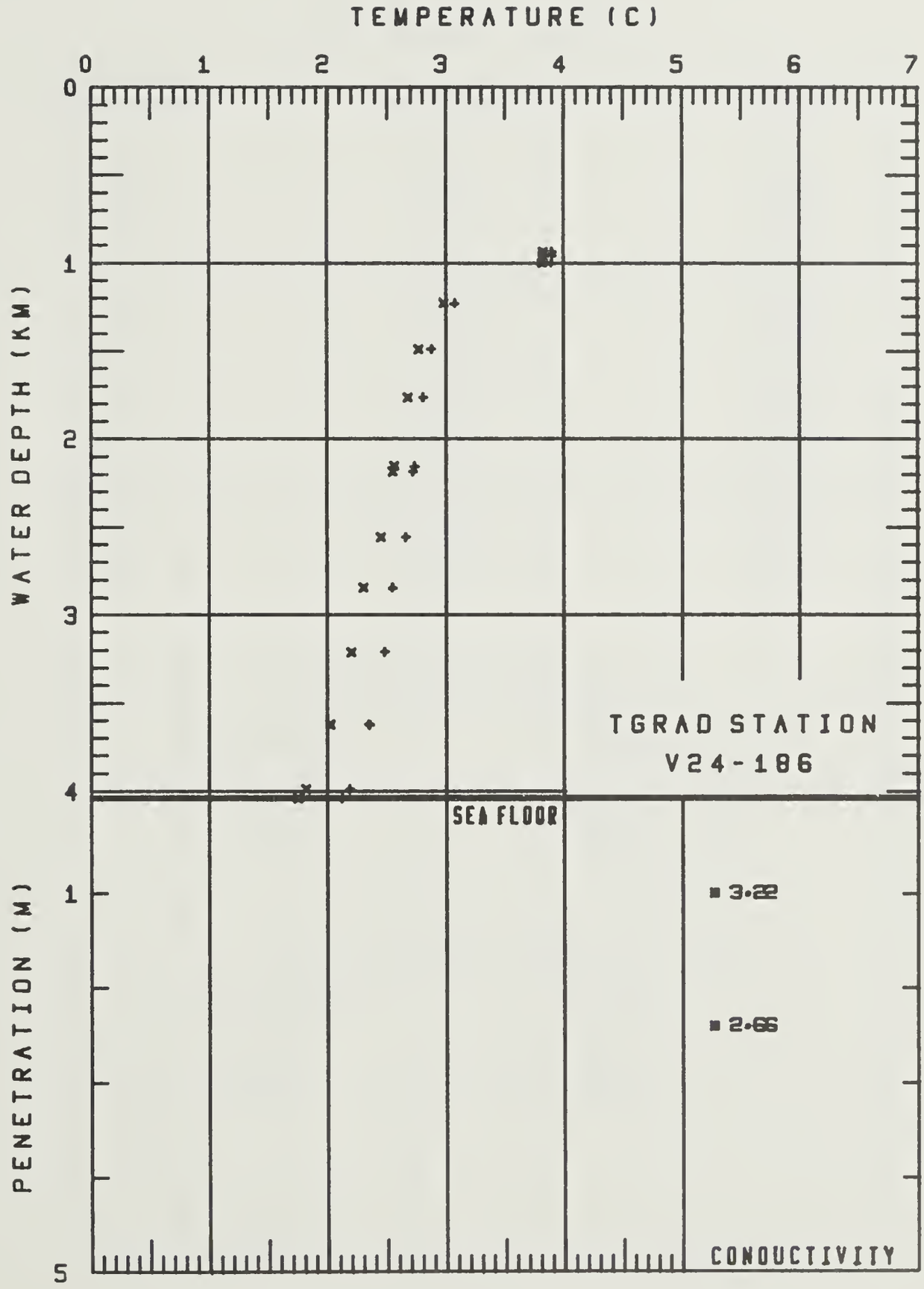
TGRAD STATION V24-186

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
998.	3.89	3.81
956.	3.90	3.82
934.	3.89	3.82
1224.	3.07	2.98
1487.	2.88	2.76
1759.	2.81	2.67
2184.	2.72	2.54
2150.	2.73	2.56
2554.	2.66	2.44
2842.	2.54	2.30
3209.	2.48	2.20
3617.	2.35	2.02
3623.	2.35	2.02
3987.	2.19	1.82
4041.	2.12	1.75

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	3.22
2.40	2.66


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-186
SEA FLOOR
PENETRATION (M)
1
5
■ 3.22
■ 2.66
CONDUCTIVITY

TGRAD STATION V24-187

WATER TEMPERATURES

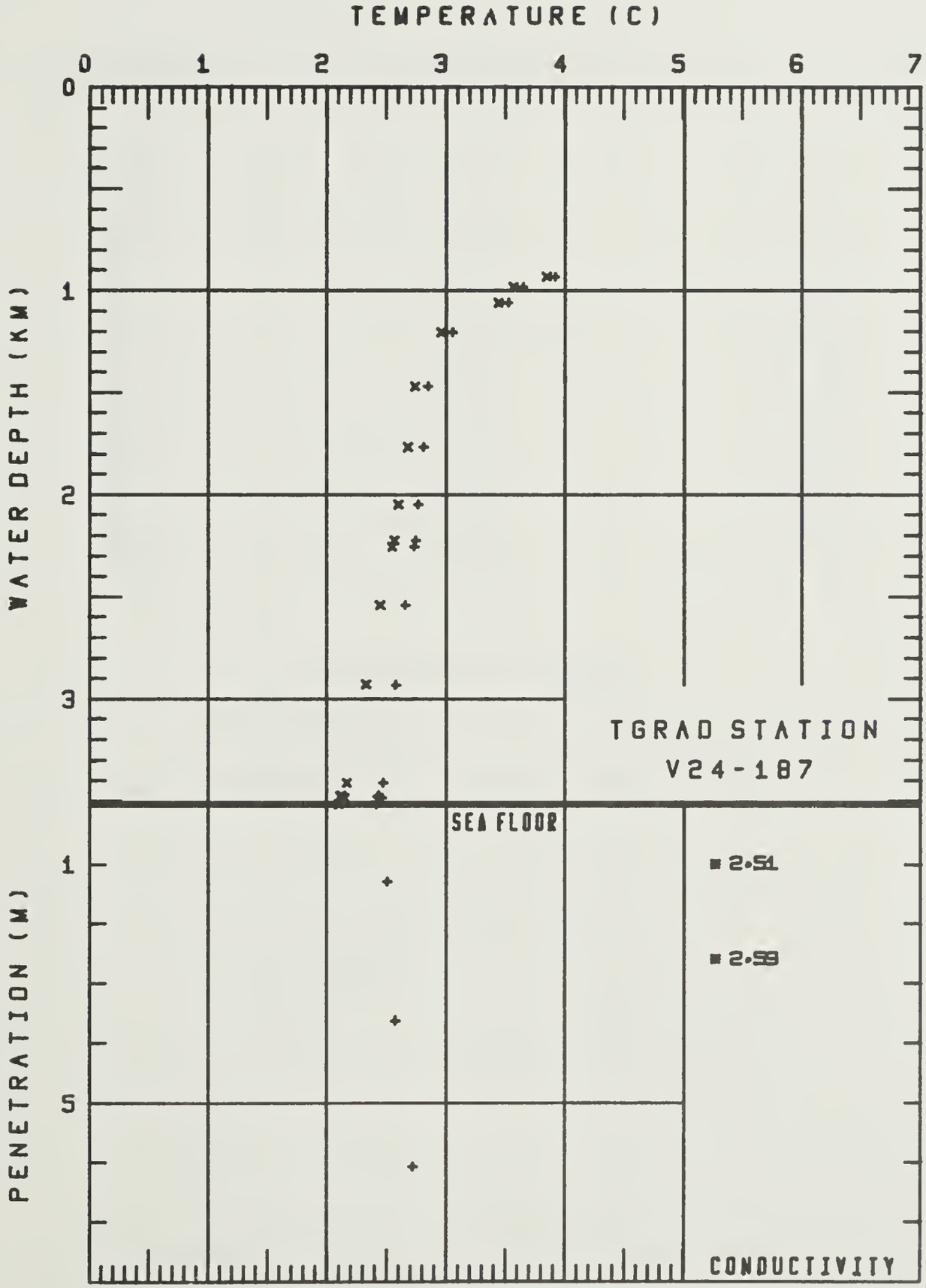
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
929.	3.92	3.84
981.	3.64	3.57
1058.	3.52	3.44
1204.	3.05	2.96
1470.	2.85	2.74
1764.	2.82	2.68
2049.	2.76	2.60
2224.	2.75	2.57
2253.	2.73	2.55
2539.	2.66	2.45
2929.	2.58	2.32
3411.	2.47	2.16
3481.	2.43	2.12
3484.	2.46	2.15
3472.	2.43	2.12
3477.	2.43	2.11
3517.	2.42	2.10

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.29	2.51
3.63	2.57
6.07	2.72

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.51
2.60	2.59


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-187
SEA FLOOR
PENETRATION (M)
1
5
■ 2.51
■ 2.59
CONDUCTIVITY

TGRAD STATION V24-188

WATER TEMPERATURES

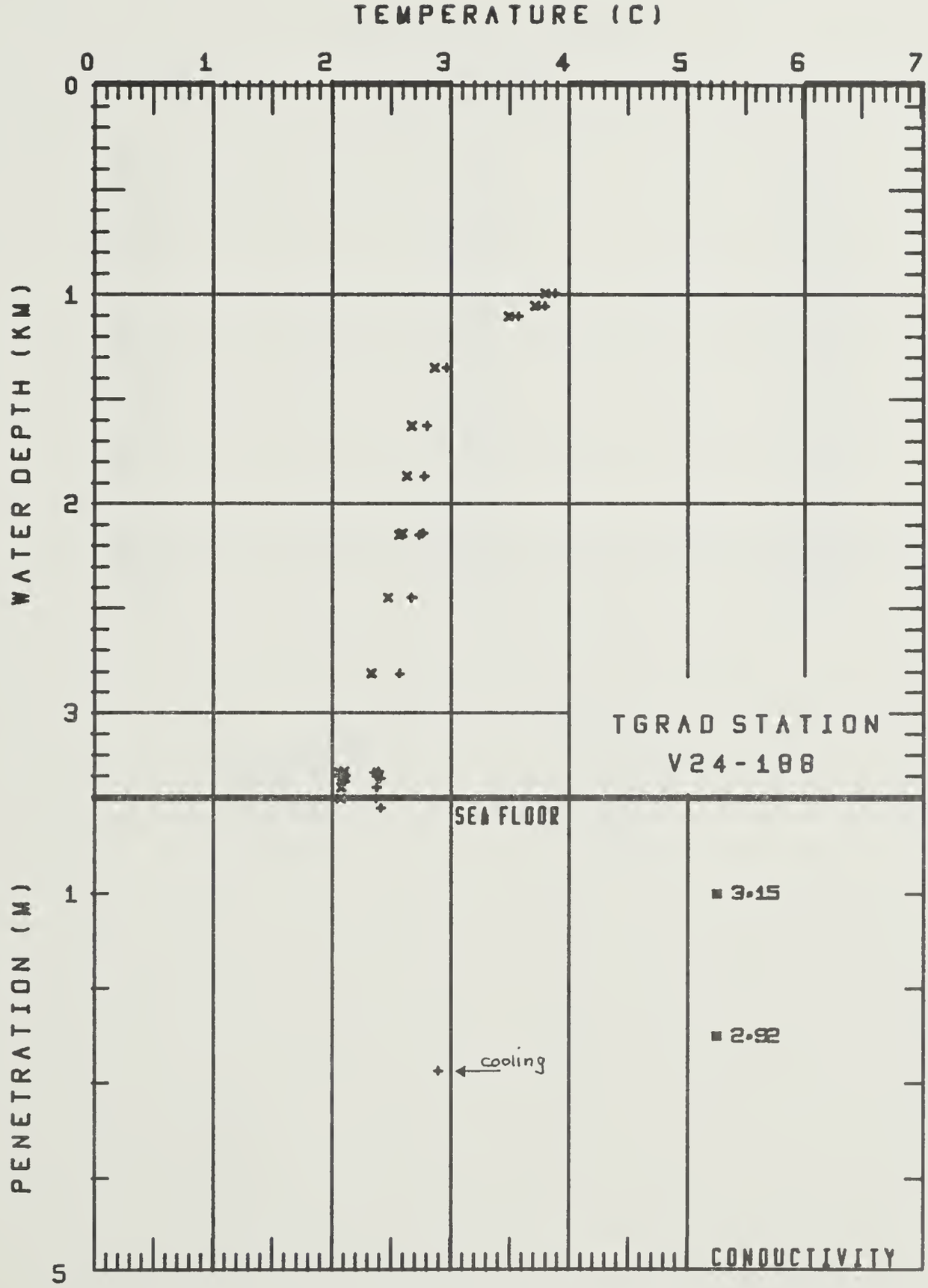
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
991.	3.89	3.82
1053.	3.81	3.73
1103.	3.59	3.50
1346.	2.98	2.88
1625.	2.81	2.69
1867.	2.79	2.65
2148.	2.75	2.58
2140.	2.78	2.61
2444.	2.69	2.48
2809.	2.59	2.35
3280.	2.41	2.12
3287.	2.40	2.11
3282.	2.36	2.08
3299.	2.39	2.10
3311.	2.42	2.13
3352.	2.39	2.09
3407.	2.39	2.09

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.10	2.43
2.87	2.91

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	3.15
2.50	2.92


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-188
SEA FLOOR
PENETRATION (M)
1
5
■ 3.15
■ 2.92
cooling
CONDUCTIVITY

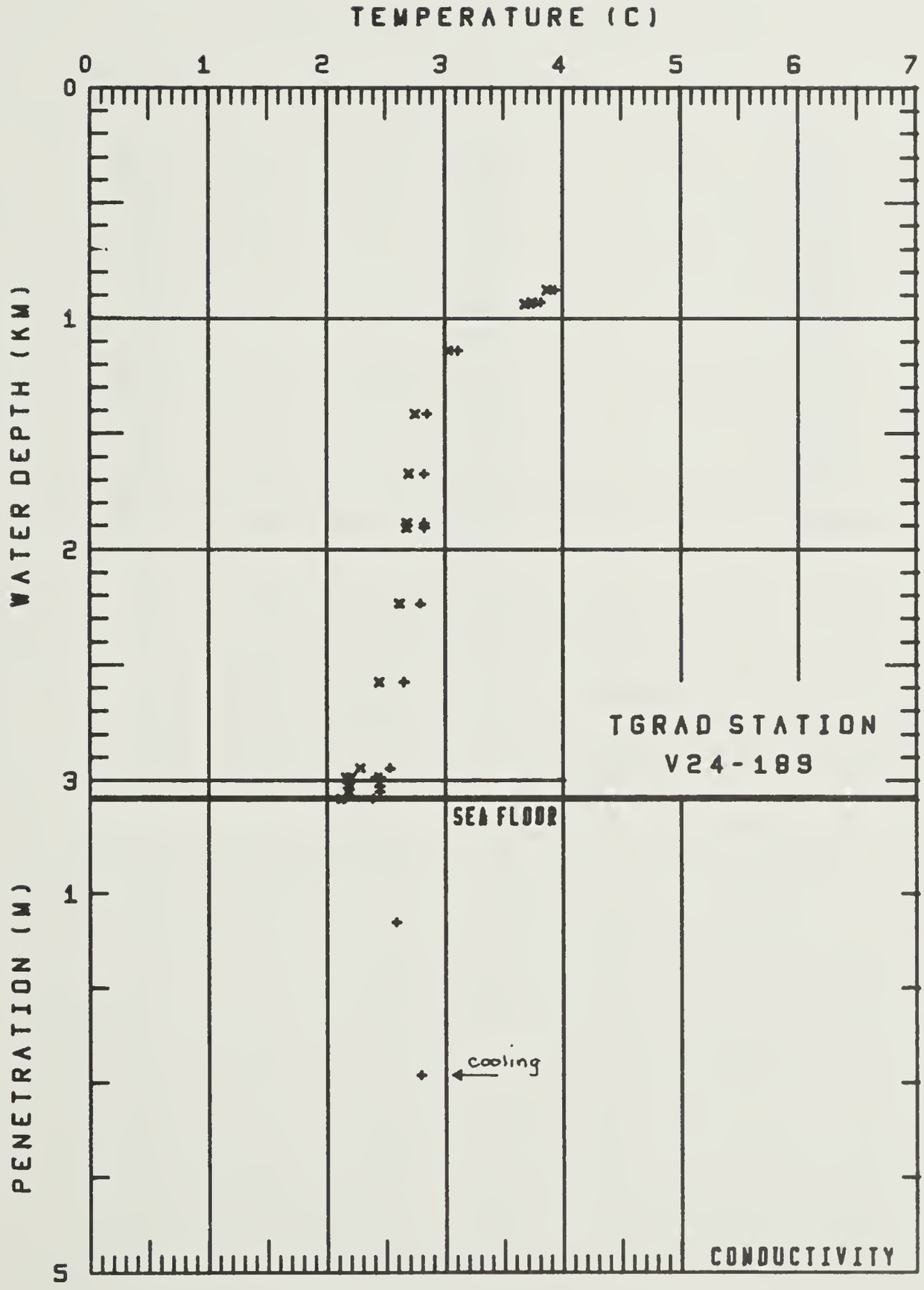
TGRAD STATION V24-189

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
875.	3.92	3.85
931.	3.80	3.73
936.	3.74	3.67
1139.	3.10	3.01
1412.	2.83	2.73
1672.	2.81	2.68
1886.	2.81	2.66
1904.	2.81	2.66
2233.	2.78	2.60
2574.	2.64	2.42
2945.	2.52	2.27
2987.	2.40	2.15
2993.	2.42	2.16
3024.	2.43	2.17
2987.	2.44	2.18
2995.	2.43	2.17
3047.	2.43	2.17
3079.	2.37	2.10

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
1.30	2.57
2.92	2.78


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-189
SEA FLOOR
PENETRATION (M)
1
5
cooling
CONDUCTIVITY

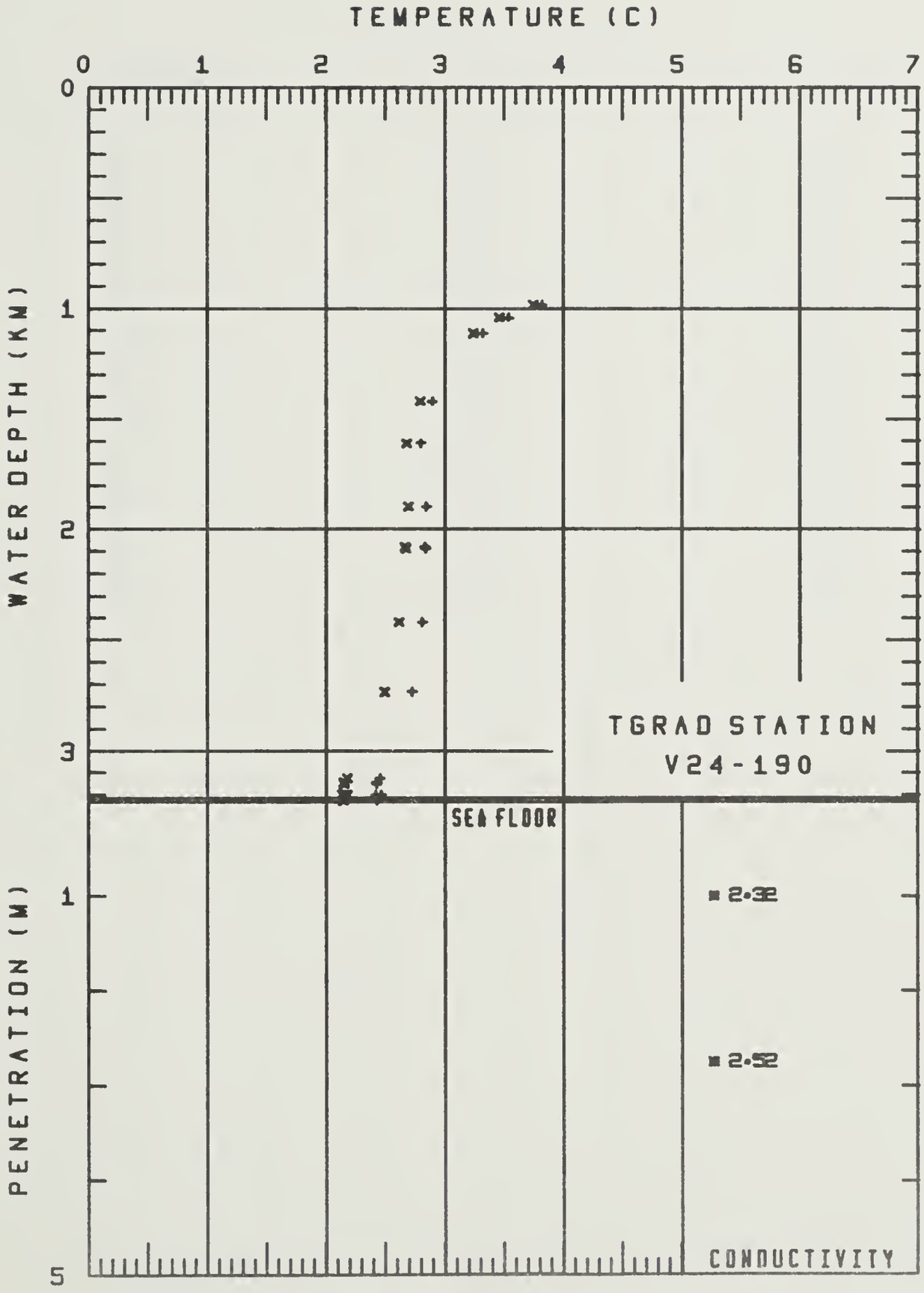
TGRAD STATION V24-190

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
981.	3.81	3.74
1040.	3.53	3.45
1112.	3.32	3.23
1417.	2.89	2.78
1609.	2.79	2.67
1893.	2.84	2.69
2078.	2.83	2.66
2086.	2.83	2.67
2416.	2.81	2.61
2733.	2.72	2.48
3125.	2.44	2.17
3199.	2.41	2.13
3199.	2.46	2.17
3149.	2.42	2.15
3141.	2.42	2.15
3224.	2.42	2.14

SEDIMENT CONDUCTIVITIES

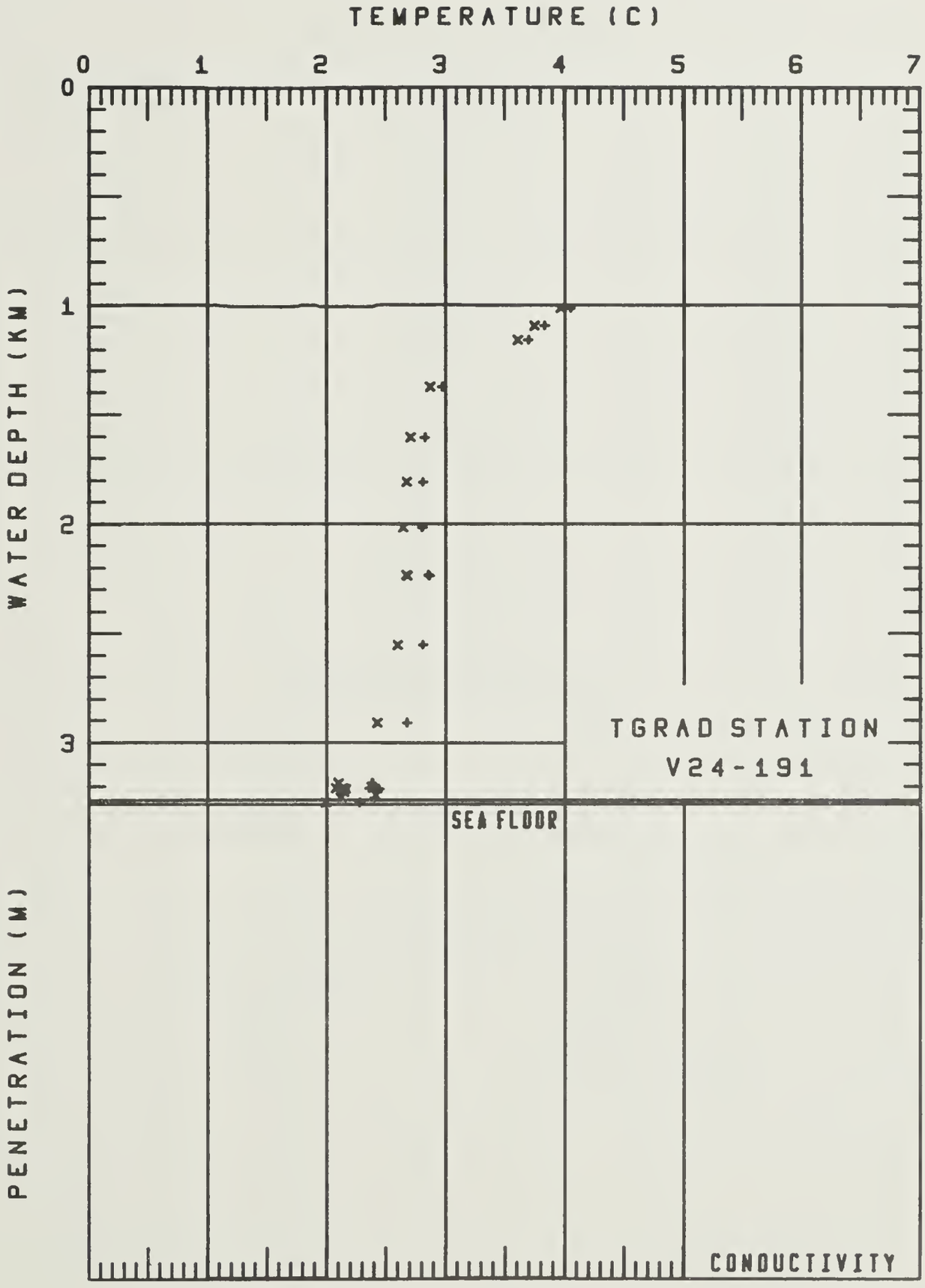
DEPTH	CONDUCTIVITY
1.00	2.32
2.75	2.52


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-190
SEA FLOOR
PENETRATION (M)
1
5
= 2.32
= 2.52
CONDUCTIVITY

TGRAD STATION V24-191

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1013.	4.05	3.97
1091.	3.83	3.75
1158.	3.69	3.60
1370.	2.98	2.87
1605.	2.83	2.71
1810.	2.82	2.67
2016.	2.81	2.65
2233.	2.86	2.67
2238.	2.86	2.68
2555.	2.81	2.60
2912.	2.68	2.42
3187.	2.38	2.10
3253.	2.41	2.12
3212.	2.44	2.16
3210.	2.42	2.14
3228.	2.43	2.15
3209.	2.36	2.08
3274.	2.28	1.99


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-191
SEA FLOOR
PENETRATION (M)
CONDUCTIVITY

TGRAD STATION V24-192

WATER TEMPERATURES

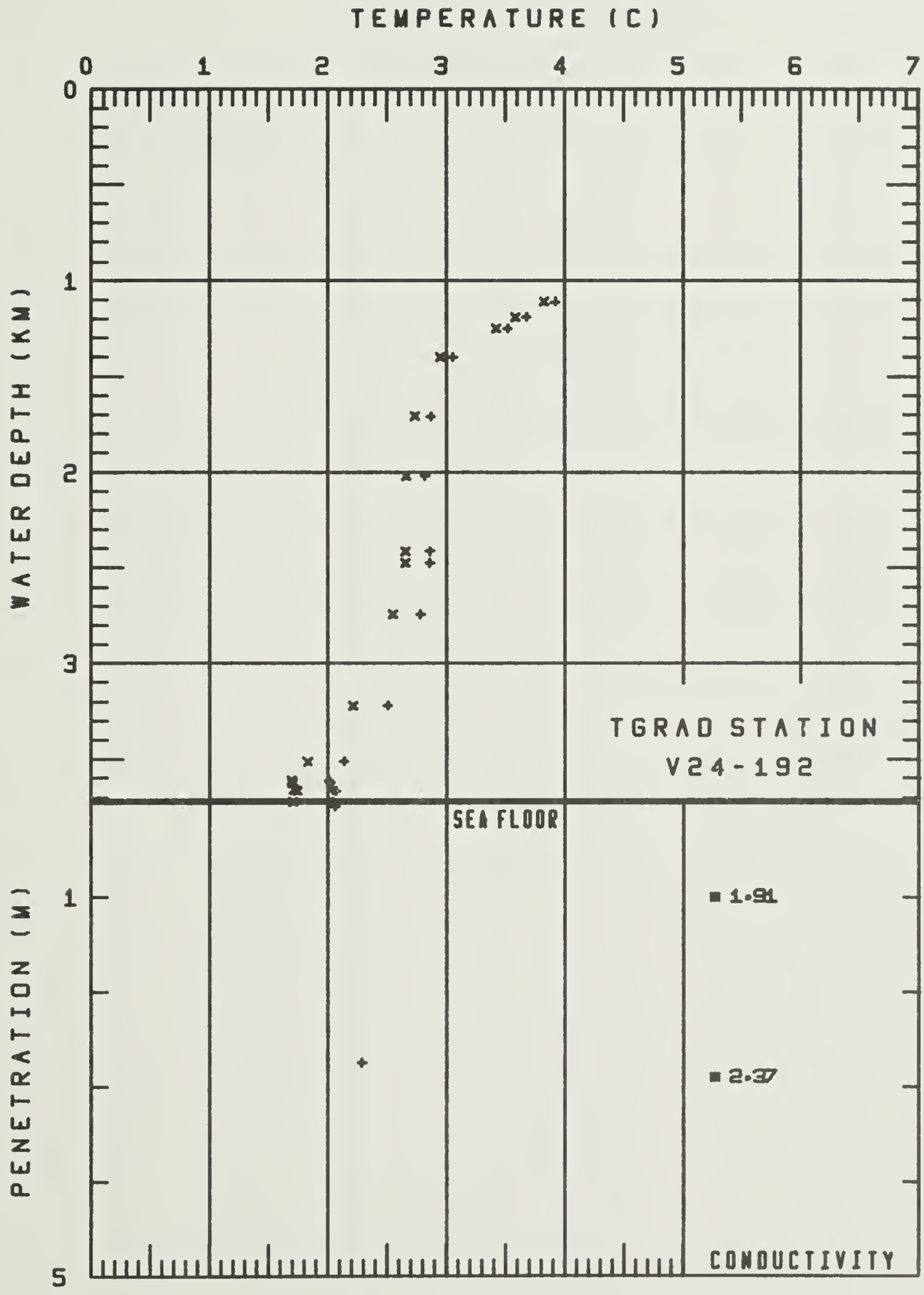
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1109.	3.91	3.82
1187.	3.67	3.58
1248.	3.51	3.42
1400.	3.06	2.95
1708.	2.87	2.74
2020.	2.82	2.66
2475.	2.86	2.65
2409.	2.86	2.65
2741.	2.78	2.54
3219.	2.50	2.21
3513.	2.13	1.82
3658.	2.04	1.71
3609.	2.01	1.69
3624.	2.02	1.70
3664.	2.06	1.74
3625.	2.02	1.70
3723.	2.04	1.71

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.05	2.06
2.75	2.28

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.91
2.90	2.37


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-192
SEA FLOOR
PENETRATION (M)
1
5
■ 1.91
■ 2.37
CONDUCTIVITY

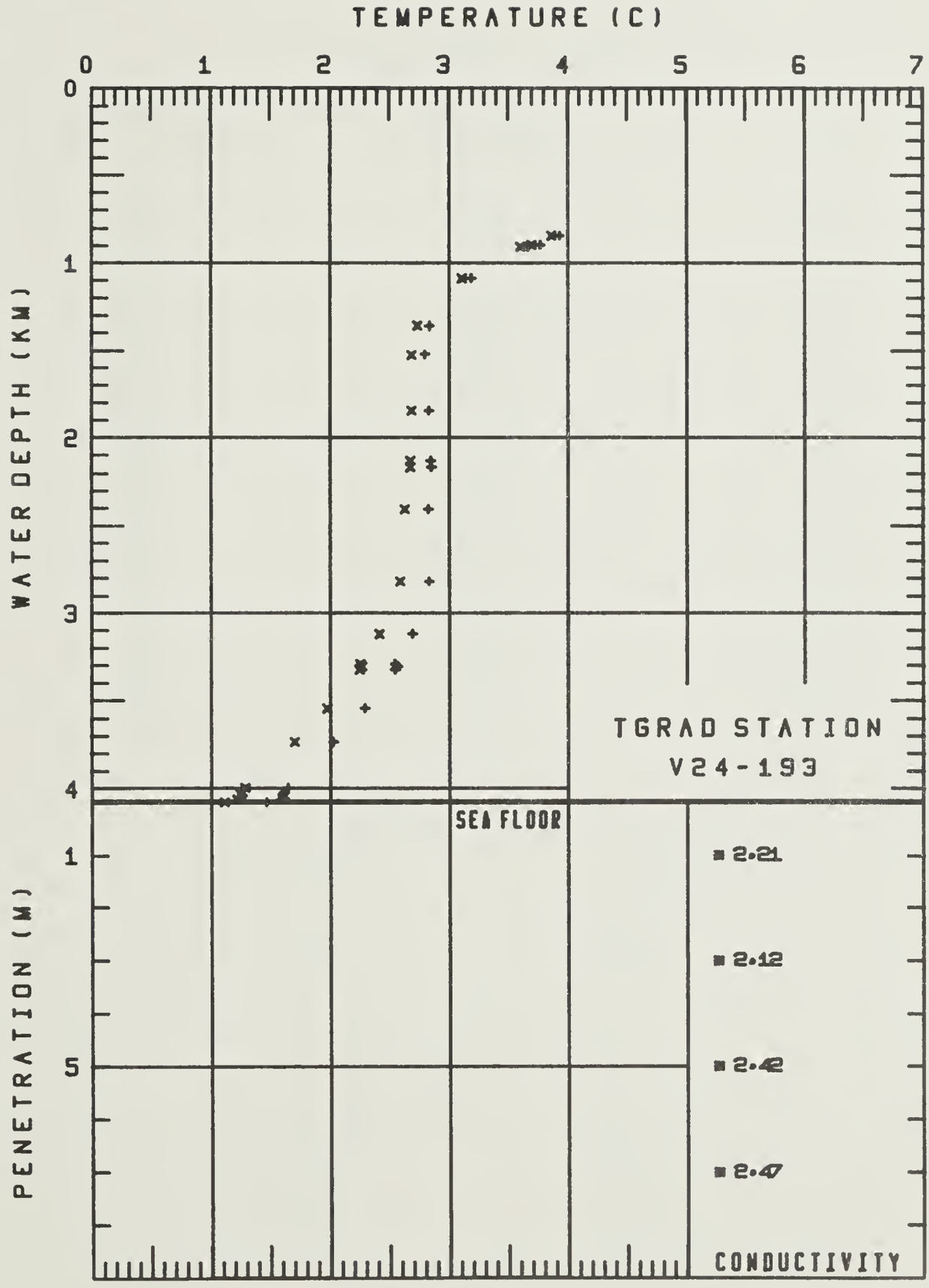
TGRAD STATION V24-193

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
843.	3.92	3.86
896.	3.76	3.70
908.	3.67	3.60
1089.	3.19	3.11
1360.	2.83	2.73
1521.	2.80	2.69
1843.	2.83	2.69
2167.	2.85	2.68
2128.	2.85	2.67
2405.	2.83	2.63
2817.	2.83	2.59
3117.	2.69	2.41
3288.	2.55	2.25
3304.	2.57	2.27
3320.	2.54	2.25
3543.	2.29	1.97
3734.	2.03	1.70
3997.	1.64	1.29
4057.	1.62	1.26
4023.	1.61	1.26
4034.	1.60	1.25
4067.	1.57	1.22
4078.	1.47	1.12

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.21
3.00	2.12
5.00	2.42
7.00	2.47


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
PENETRATION (M)
1
5
TGRAD STATION
V24-193
SEA FLOOR
= 2.21
= 2.12
= 2.42
= 2.47
CONDUCTIVITY

TGRAD STATION V24-194

WATER TEMPERATURES

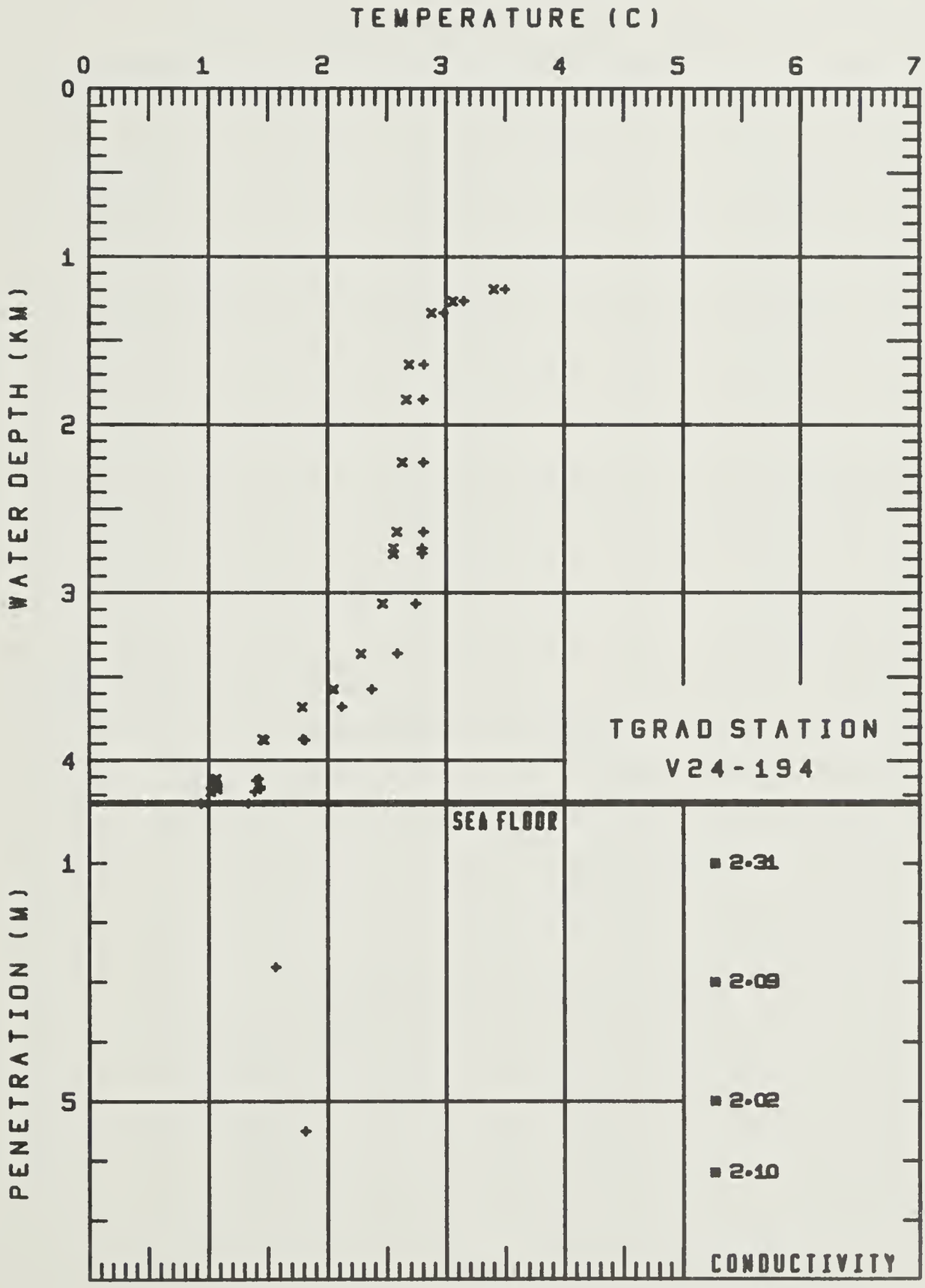
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1192.	3.49	3.40
1261.	3.15	3.06
1333.	2.97	2.87
1638.	2.81	2.69
1848.	2.80	2.66
2220.	2.81	2.63
2638.	2.81	2.58
2767.	2.79	2.55
2734.	2.79	2.55
3062.	2.74	2.46
3358.	2.59	2.28
3572.	2.37	2.05
3678.	2.12	1.79
3871.	1.80	1.46
3877.	1.81	1.47
4109.	1.42	1.06
4117.	1.40	1.05
4152.	1.44	1.07
4167.	1.43	1.07
4184.	1.38	1.02
4254.	1.33	0.96

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.74	1.56
5.51	1.81

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.31
3.00	2.09
5.00	2.02
6.20	2.10


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-194
SEA FLOOR
PENETRATION (M)
1
5
2.31
2.09
2.02
2.10
CONDUCTIVITY

TGRAD STATION V24-195

WATER TEMPERATURES

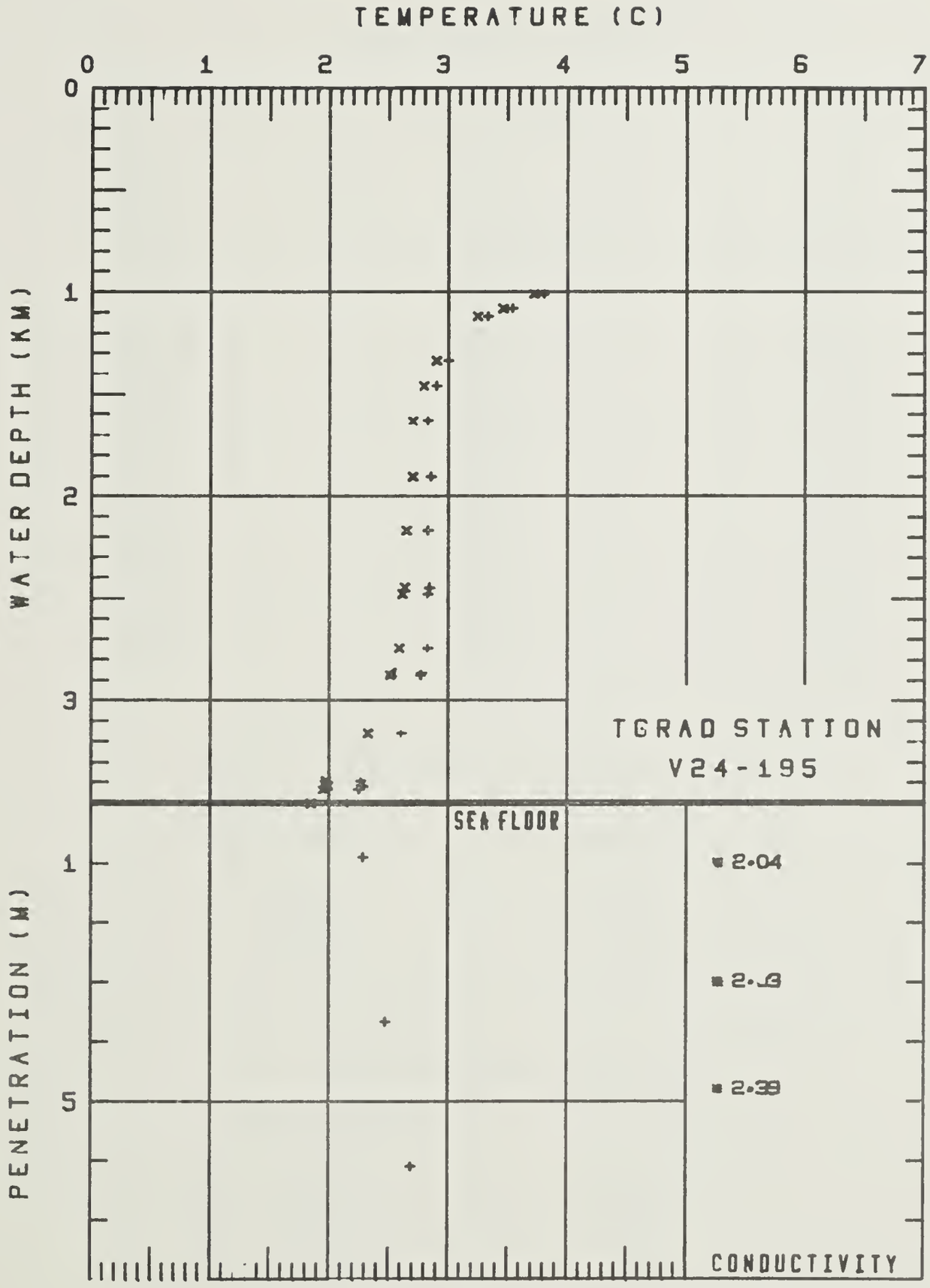
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1006.	3.80	3.72
1077.	3.54	3.46
1117.	3.33	3.25
1335.	3.00	2.90
1458.	2.90	2.79
1628.	2.83	2.70
1902.	2.85	2.70
2166.	2.82	2.65
2447.	2.84	2.63
2476.	2.82	2.61
2743.	2.83	2.59
2862.	2.77	2.52
2874.	2.77	2.52
3158.	2.60	2.32
3414.	2.29	1.99
3413.	2.27	1.97
3391.	2.27	1.97
3433.	2.25	1.94
3500.	2.15	1.85

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.91	2.29
3.66	2.47
6.09	2.69

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.04
3.00	2.03
4.80	2.39


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-195
SEA FLOOR
PENETRATION (M)
1
5
= 2.04
= 2.13
= 2.38
CONDUCTIVITY

TGRAD STATION V24-196

WATER TEMPERATURES

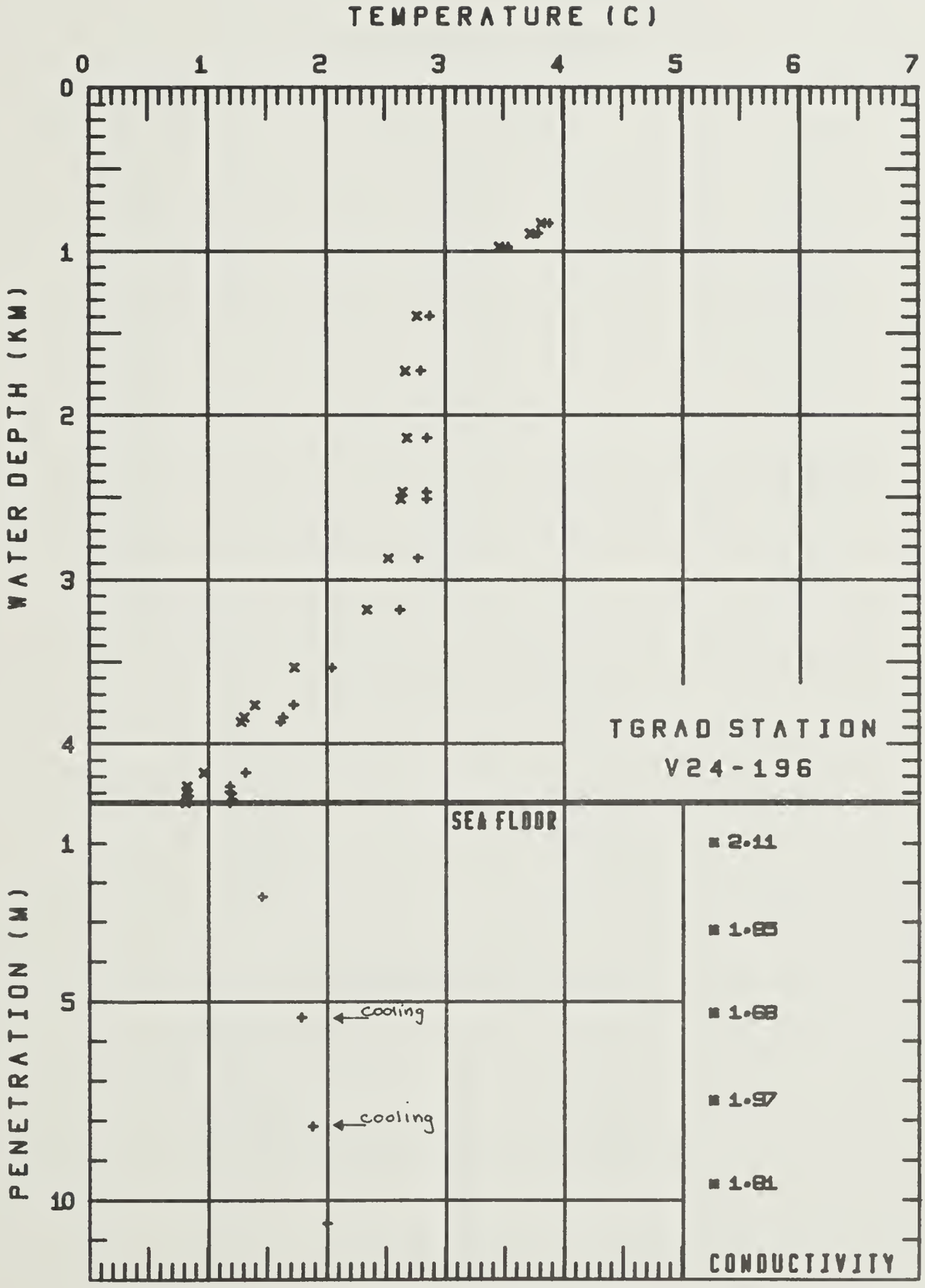
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
828.	3.88	3.82
891.	3.79	3.72
973.	3.53	3.46
1396.	2.87	2.77
1730.	2.80	2.67
2135.	2.85	2.68
2463.	2.85	2.64
2510.	2.84	2.63
2865.	2.77	2.52
3179.	2.62	2.34
3537.	2.04	1.73
3761.	1.72	1.39
3865.	1.61	1.28
3836.	1.63	1.30
4173.	1.32	0.96
4255.	1.19	0.83
4289.	1.19	0.82
4299.	1.20	0.83
4336.	1.21	0.84
4358.	1.19	0.81

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.35	1.46
5.39	1.78
8.14	1.88
10.57	2.00

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.11
3.20	1.85
5.30	1.68
7.50	1.97
9.60	1.81


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
SEA FLOOR
TGRAD STATION
V24-196
cooling
cooling
2.11
1.85
1.88
1.97
1.81
CONDUCTIVITY

TGRAD STATION V24-197

WATER TEMPERATURES

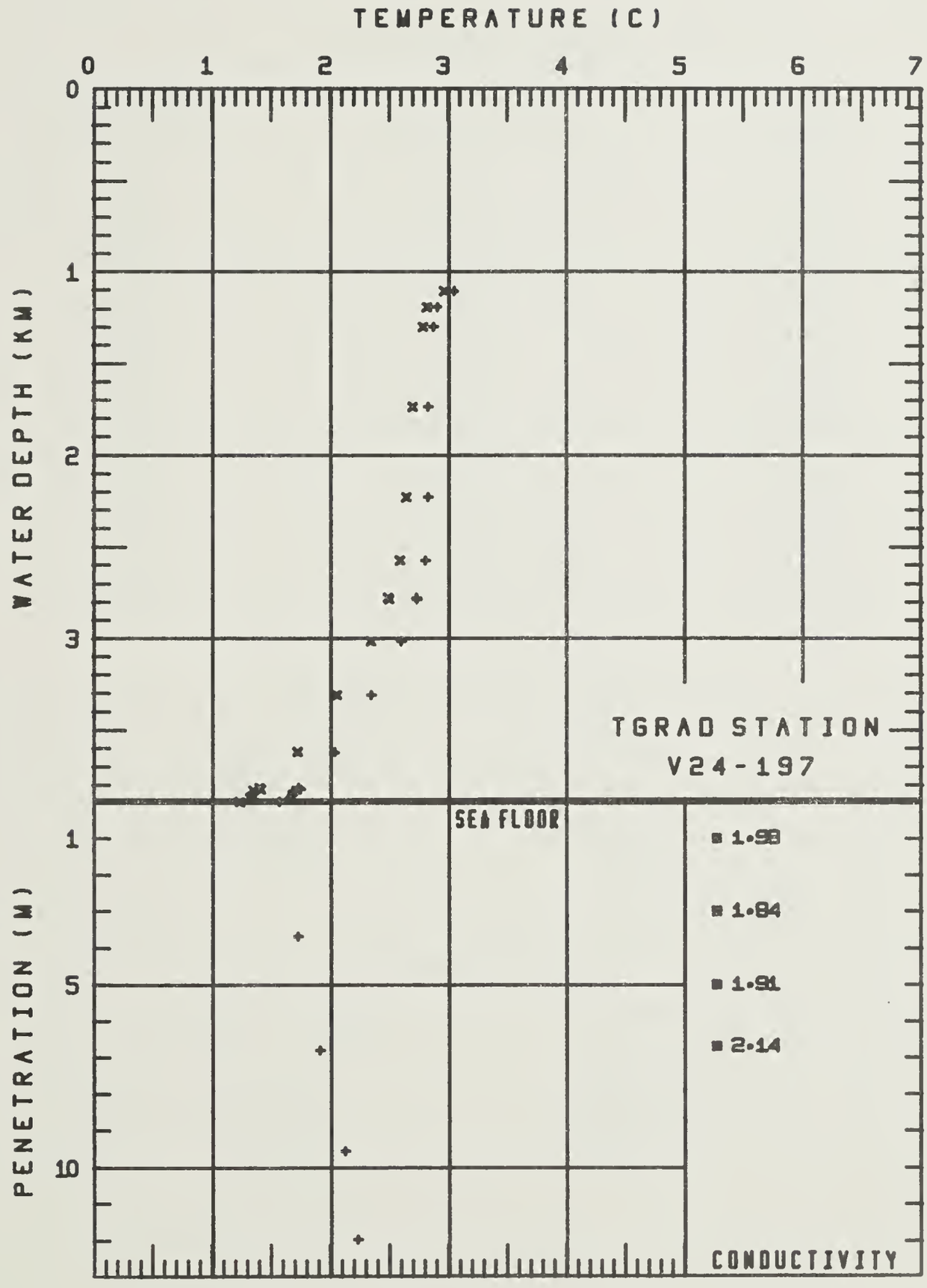
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1102.	3.04	2.96
1190.	2.90	2.81
1297.	2.88	2.78
1733.	2.83	2.70
2225.	2.82	2.64
2572.	2.80	2.58
2783.	2.73	2.49
2774.	2.73	2.49
3012.	2.60	2.34
3309.	2.35	2.05
3617.	2.04	1.72
3822.	1.75	1.41
3815.	1.73	1.40
3858.	1.67	1.34
3830.	1.68	1.35
3870.	1.65	1.32
3891.	1.57	1.23

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.69	1.73
6.81	1.91
9.56	2.13
11.99	2.23

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.98
3.00	1.84
5.00	1.91
6.70	2.14


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-197
SEA FLOOR
PENETRATION (M)
1
5
10
1.93
1.84
1.91
2.14
CONDUCTIVITY

TGRAD STATION V24-198

WATER TEMPERATURES

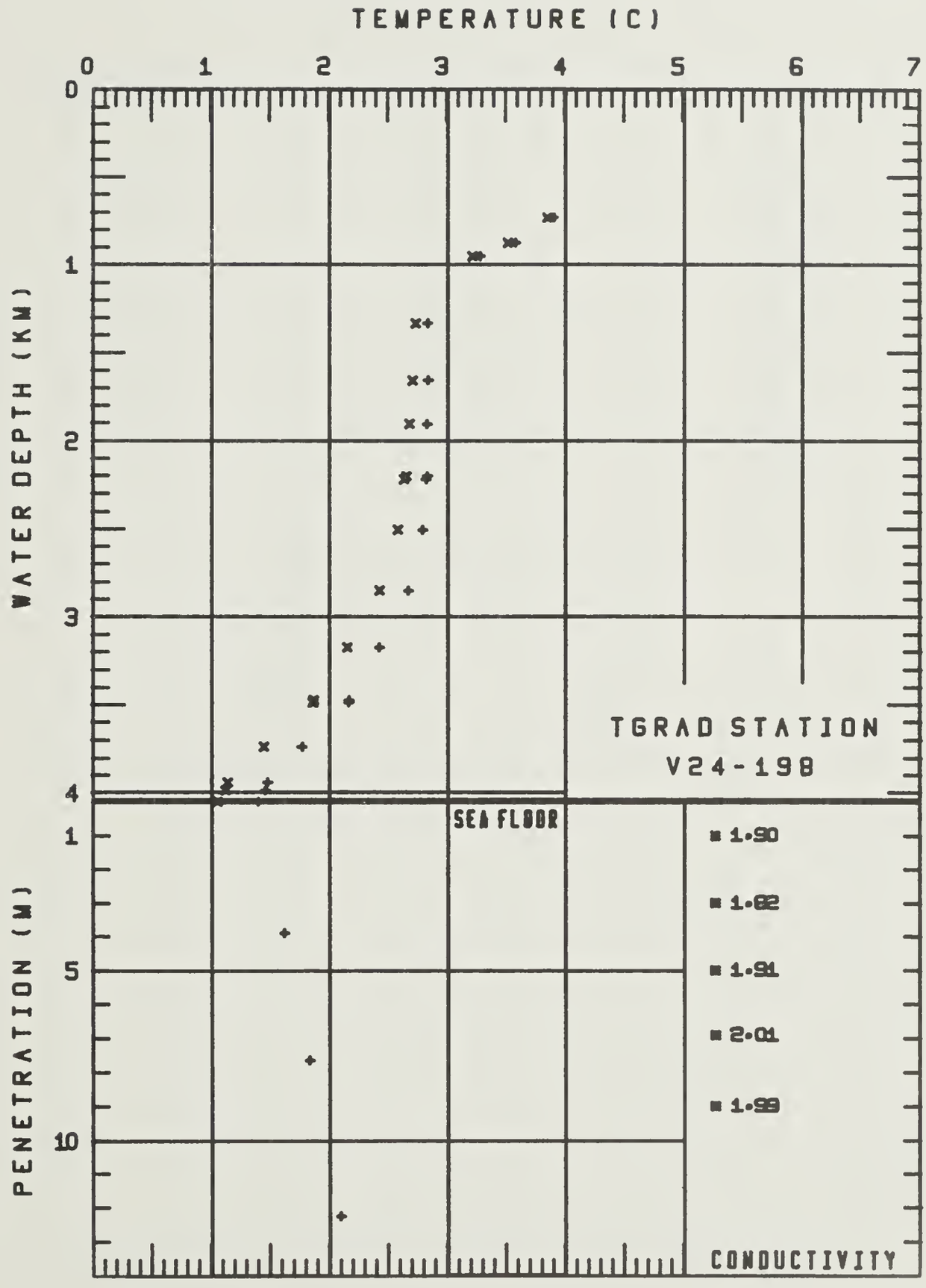
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
728.	3.90	3.85
873.	3.58	3.51
950.	3.28	3.21
1332.	2.83	2.73
1655.	2.84	2.71
1903.	2.83	2.68
2197.	2.84	2.66
2217.	2.82	2.63
2504.	2.79	2.58
2847.	2.67	2.43
3172.	2.43	2.15
3485.	2.17	1.86
3470.	2.17	1.86
3737.	1.77	1.45
3939.	1.48	1.14
3984.	1.46	1.12
4048.	1.40	1.05

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.87	1.62
7.62	1.83
12.22	2.10

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.90
3.00	1.82
5.00	1.91
6.90	2.01
9.00	1.99


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-198
SEA FLOOR
PENETRATION (M)
1
5
10
= 1.90
= 1.82
= 1.91
= 2.01
= 1.99
CONDUCTIVITY

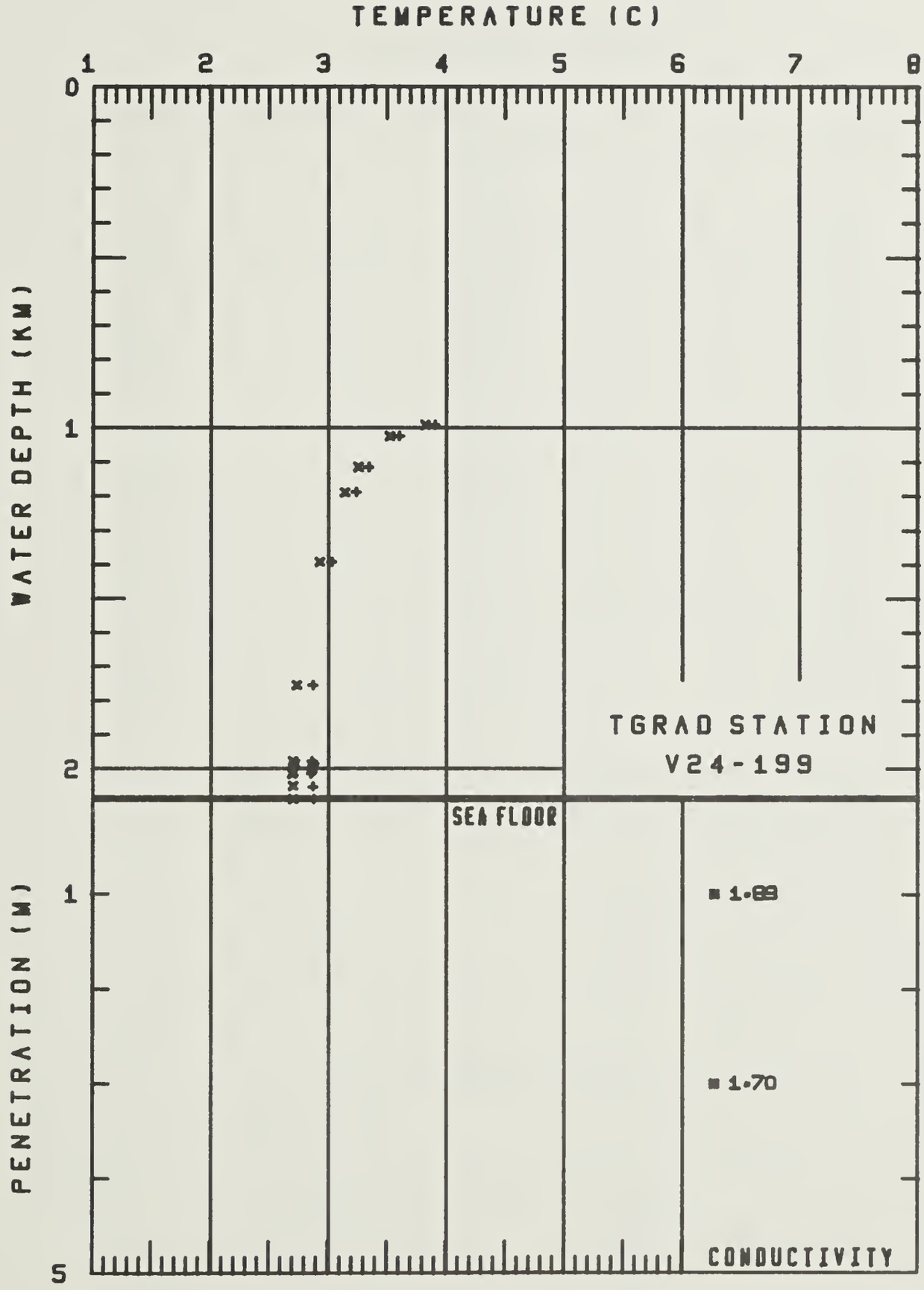
TGRAD STATION V24-199

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
990.	3.90	3.82
1022.	3.60	3.52
1114.	3.34	3.25
1188.	3.23	3.14
1391.	3.03	2.92
1752.	2.87	2.73
2013.	2.85	2.69
1989.	2.86	2.71
1983.	2.87	2.71
1975.	2.86	2.70
2009.	2.86	2.70
2050.	2.87	2.70
2087.	2.87	2.70

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.89
3.00	1.70


TEMPERATURE (C)
1
2
3
4
5
6
7
8
0
1
2
WATER DEPTH (KM)
TGRAD STATION
V24-199
SEA FLOOR
1
5
PENETRATION (M)
■ 1.88
■ 1.70
CONDUCTIVITY

TGRAD STATION V24-200

WATER TEMPERATURES

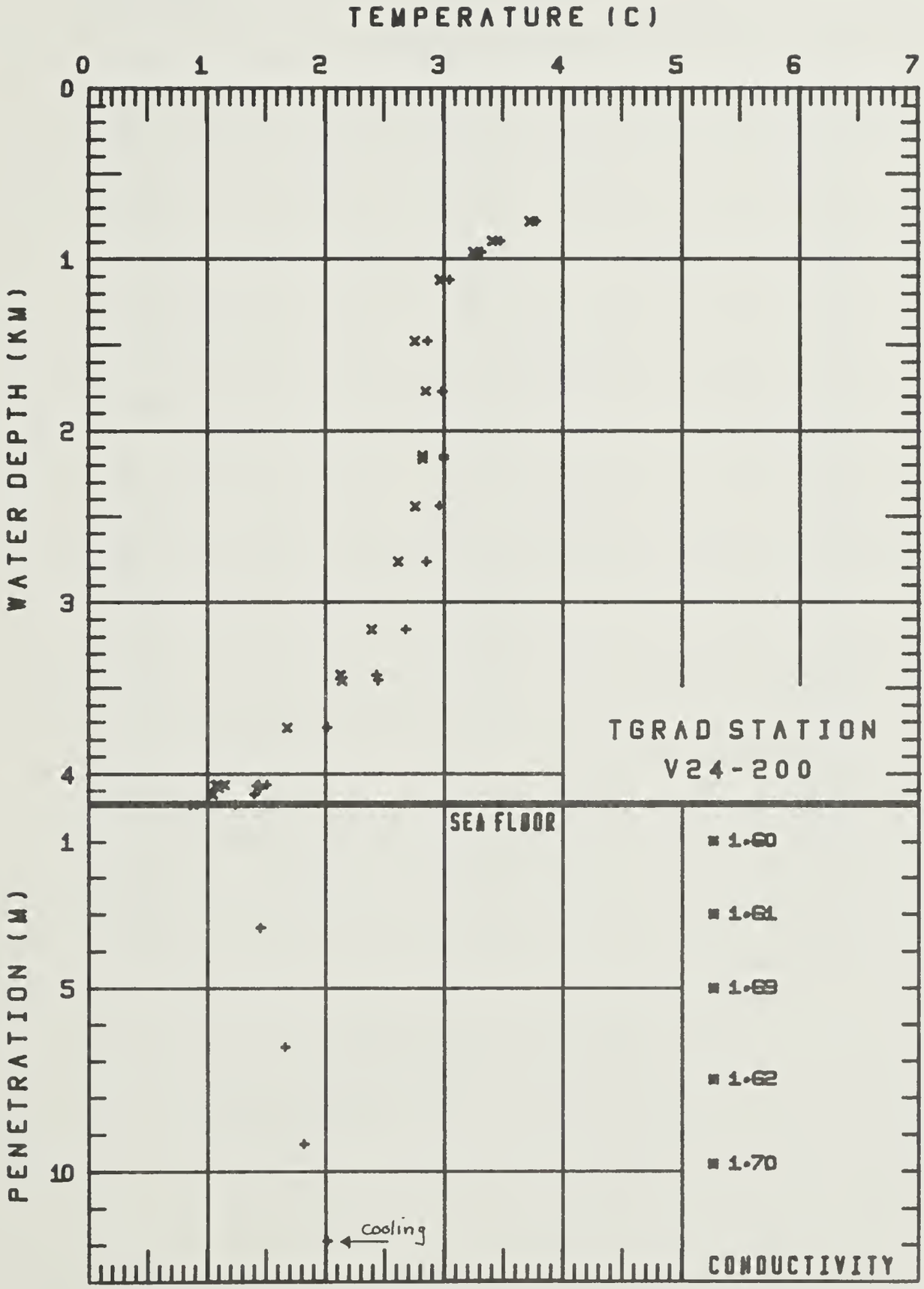
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
777.	3.78	3.72
891.	3.47	3.41
956.	3.31	3.24
1118.	3.05	2.97
1478.	2.86	2.75
1767.	2.99	2.85
2145.	3.00	2.82
2162.	3.00	2.82
2439.	2.97	2.76
2763.	2.85	2.61
3156.	2.68	2.40
3452.	2.45	2.14
3419.	2.43	2.12
3729.	2.01	1.68
4064.	1.50	1.15
4063.	1.44	1.09
4064.	1.42	1.07
4119.	1.40	1.04
4078.	1.45	1.10
4178.	1.24	0.89

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.36	1.45
6.61	1.66
9.25	1.82
11.89	2.01

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.60
3.00	1.61
5.00	1.69
7.50	1.62
9.80	1.70


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-200
SEA FLOOR
= 1.60
= 1.61
= 1.63
= 1.62
= 1.70
cooling
CONDUCTIVITY

TGRAD STATION V24-201

WATER TEMPERATURES

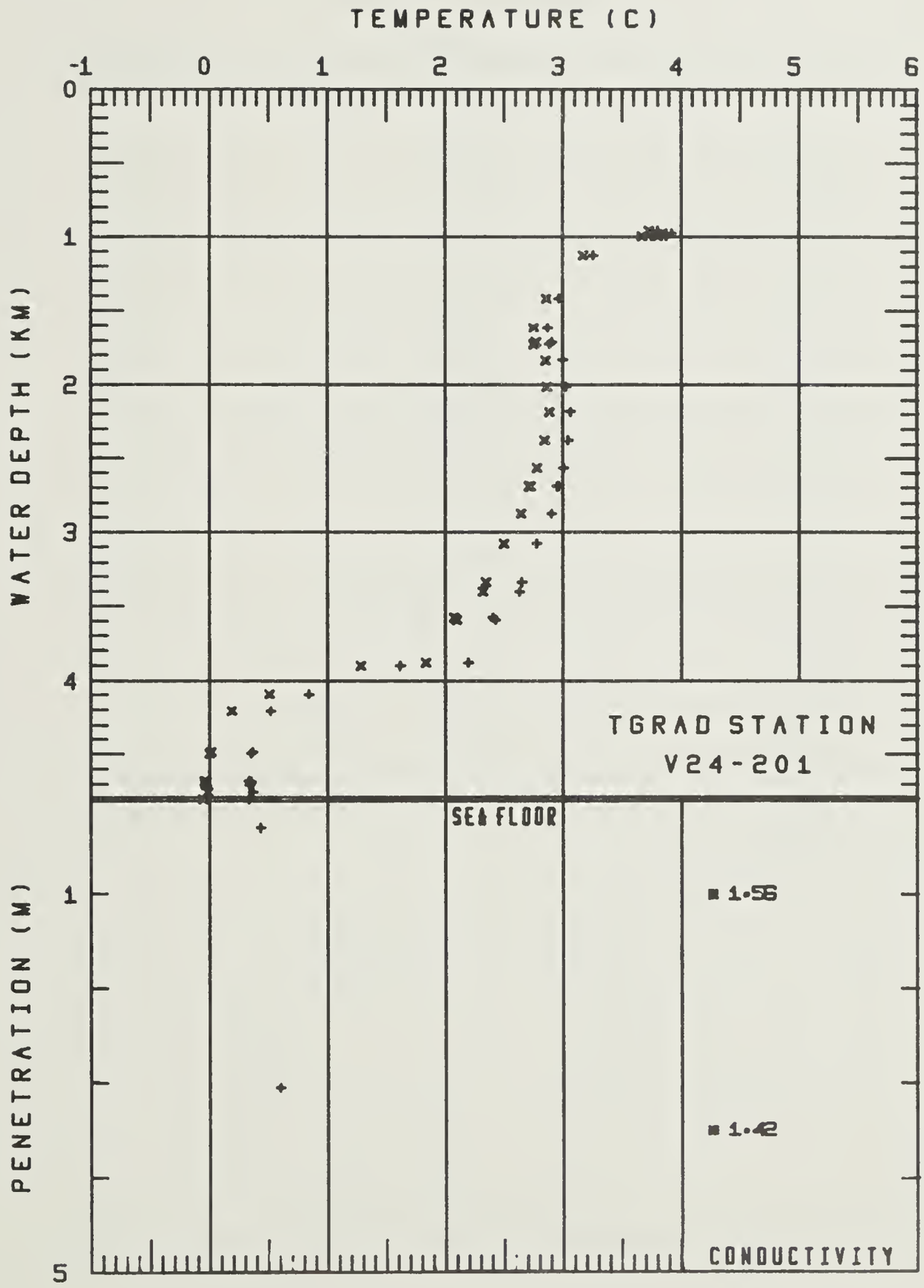
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
969.	3.92	3.84
953.	3.80	3.73
991.	3.88	3.80
994.	3.75	3.67
1123.	3.25	3.17
1413.	2.96	2.85
1609.	2.87	2.74
1705.	2.90	2.76
1723.	2.88	2.75
1832.	2.99	2.85
2013.	3.02	2.86
2184.	3.06	2.88
2373.	3.04	2.84
2561.	3.00	2.77
2684.	2.96	2.72
2684.	2.95	2.71
2869.	2.90	2.64
3074.	2.77	2.50
3336.	2.65	2.34
3399.	2.62	2.31
3575.	2.40	2.07
3594.	2.42	2.09
3882.	2.19	1.83
3903.	1.62	1.28
4093.	0.84	0.51
4207.	0.52	0.19
4485.	0.36	0.01
4493.	0.35	0.00
4684.	0.35	-0.01
4695.	0.35	-0.02
4683.	0.34	-0.03
4705.	0.34	-0.02
4757.	0.37	-0.00
4803.	0.33	-0.04

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.30	0.43
3.04	0.60

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.56
3.50	1.42


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-201
SEA FLOOR
PENETRATION (M)
1
5
■ 1.56
■ 1.42
CONDUCTIVITY

TGRAD STATION V24-202

WATER TEMPERATURES

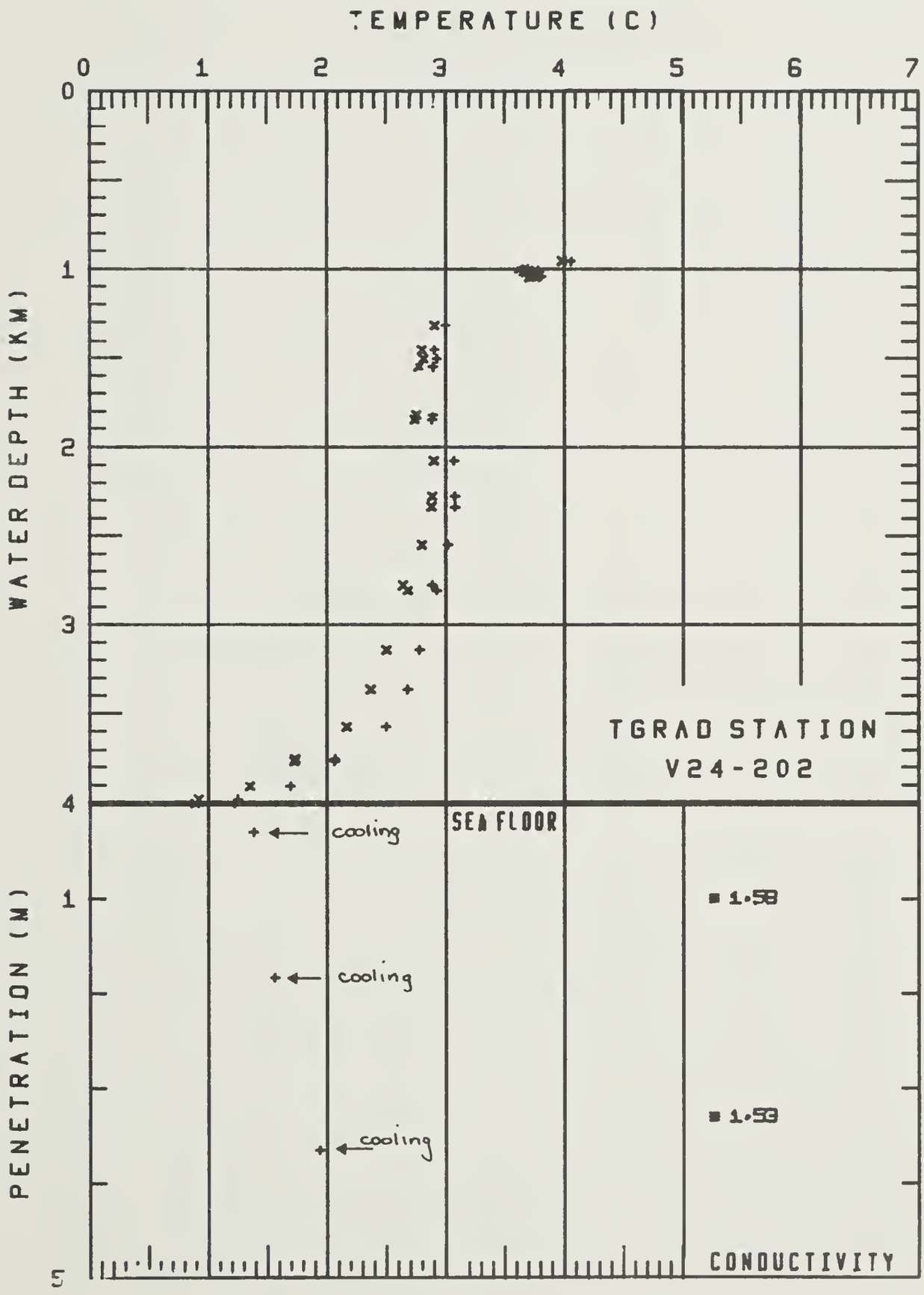
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
951.	4.05	3.98
1008.	3.78	3.70
1045.	3.79	3.71
1042.	3.81	3.73
1021.	3.78	3.70
1025.	3.75	3.67
1014.	3.73	3.66
1003.	3.69	3.62
1315.	3.00	2.91
1454.	2.91	2.80
1503.	2.93	2.81
1548.	2.89	2.77
1846.	2.89	2.74
1820.	2.90	2.75
2077.	3.07	2.90
2277.	3.08	2.89
2334.	3.08	2.88
2548.	3.02	2.80
2809.	2.93	2.68
2775.	2.89	2.64
3140.	2.78	2.50
3364.	2.68	2.37
3570.	2.50	2.17
3754.	2.07	1.73
3768.	2.07	1.73
3907.	1.69	1.35
3982.	1.25	0.92
4003.	1.23	0.89

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.30	1.38
1.83	1.57
3.65	1.94

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.58
3.30	1.53


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-202
SEA FLOOR
cooling
cooling
cooling
PENETRATION (M)
1
5
■ 1.58
■ 1.58
CONDUCTIVITY

TGRAD STATION V24-203

WATER TEMPERATURES

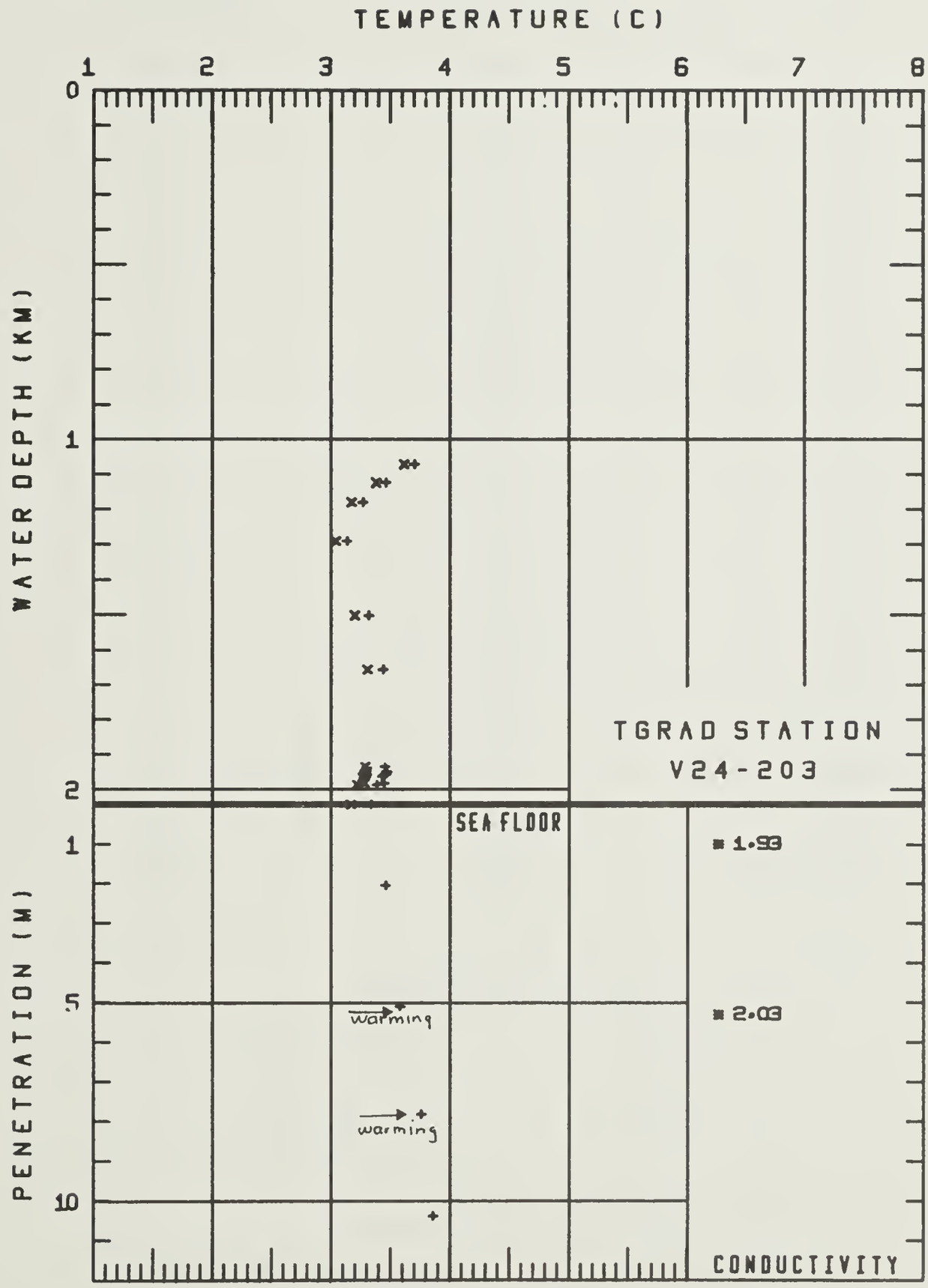
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1069.	3.70	3.61
1122.	3.46	3.38
1178.	3.26	3.17
1289.	3.14	3.04
1504.	3.32	3.20
1658.	3.44	3.31
1964.	3.43	3.27
1949.	3.47	3.30
1983.	3.45	3.28
1958.	3.44	3.28
1958.	3.46	3.29
1934.	3.45	3.29
1987.	3.39	3.22
2044.	3.34	3.17

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.03	3.46
5.10	3.58
7.82	3.76
10.38	3.86

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.93
5.30	2.03


TEMPERATURE (C)
1
2
3
4
5
6
7
8
WATER DEPTH (KM)
0
1
2
TGRAD STATION
V24-203
SEA FLOOR
PENETRATION (M)
1
5
10
warming
warming
= 1.93
= 2.03
CONDUCTIVITY

TGRAD STATION V24 204

WATER TEMPERATURES

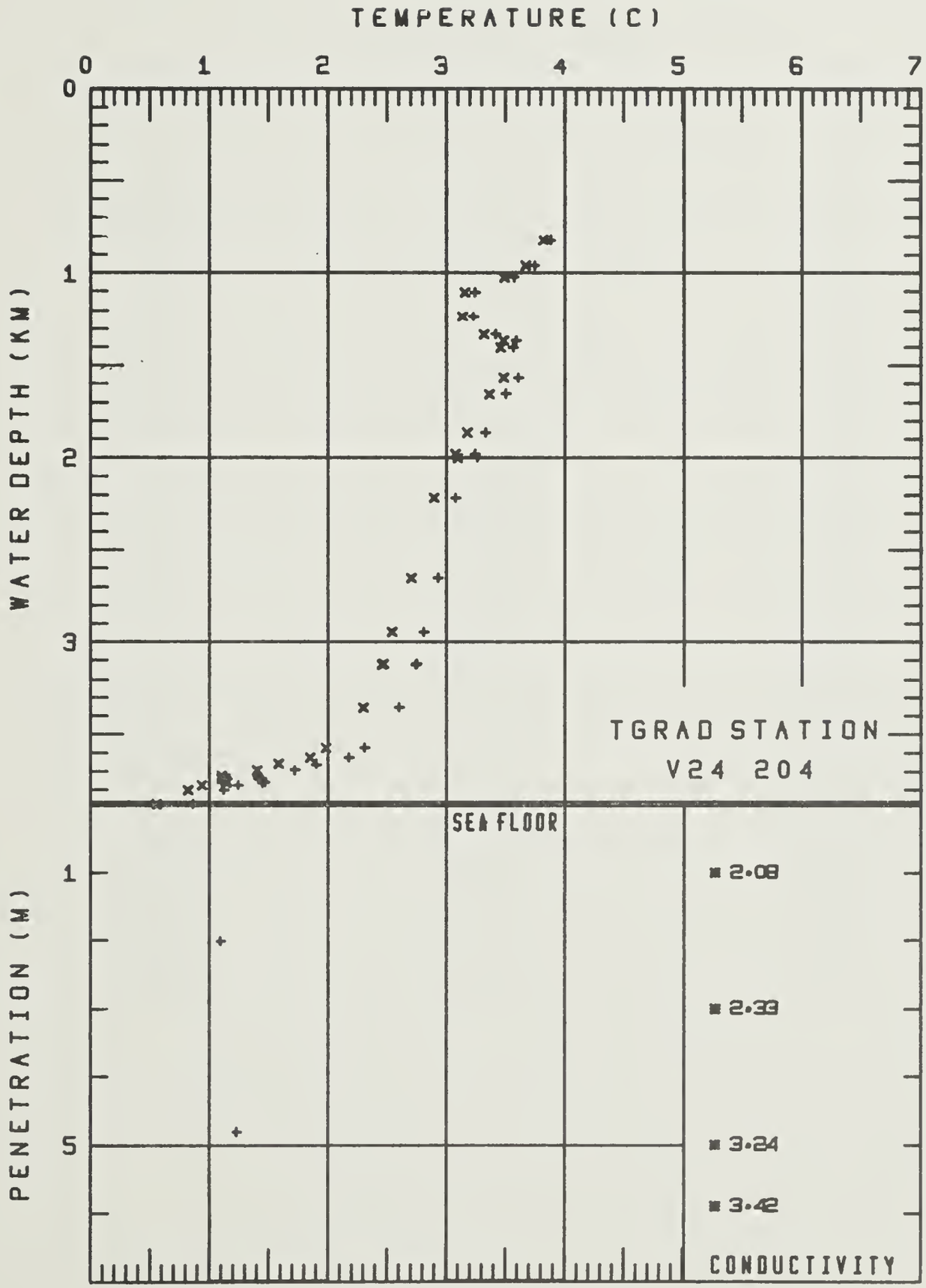
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
820.	3.88	3.81
955.	3.74	3.67
1022.	3.57	3.49
1101.	3.24	3.15
1233.	3.23	3.13
1327.	3.41	3.31
1364.	3.59	3.48
1400.	3.56	3.45
1564.	3.61	3.48
1651.	3.50	3.36
1862.	3.33	3.17
2001.	3.26	3.09
1980.	3.24	3.08
2214.	3.08	2.89
2652.	2.93	2.70
2943.	2.80	2.54
3118.	2.74	2.46
3113.	2.75	2.46
3353.	2.60	2.29
3571.	2.30	1.98
3623.	2.17	1.85
3660.	1.90	1.58
3692.	1.72	1.40
3723.	1.41	1.10
3742.	1.41	1.10
3747.	1.45	1.14
3735.	1.44	1.13
3763.	1.45	1.13
3759.	1.46	1.15
3774.	1.24	0.94
3801.	1.12	0.82
3878.	0.86	0.56

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.01	1.10
4.81	1.23

SEDIMENT CONDUCTIVITIES

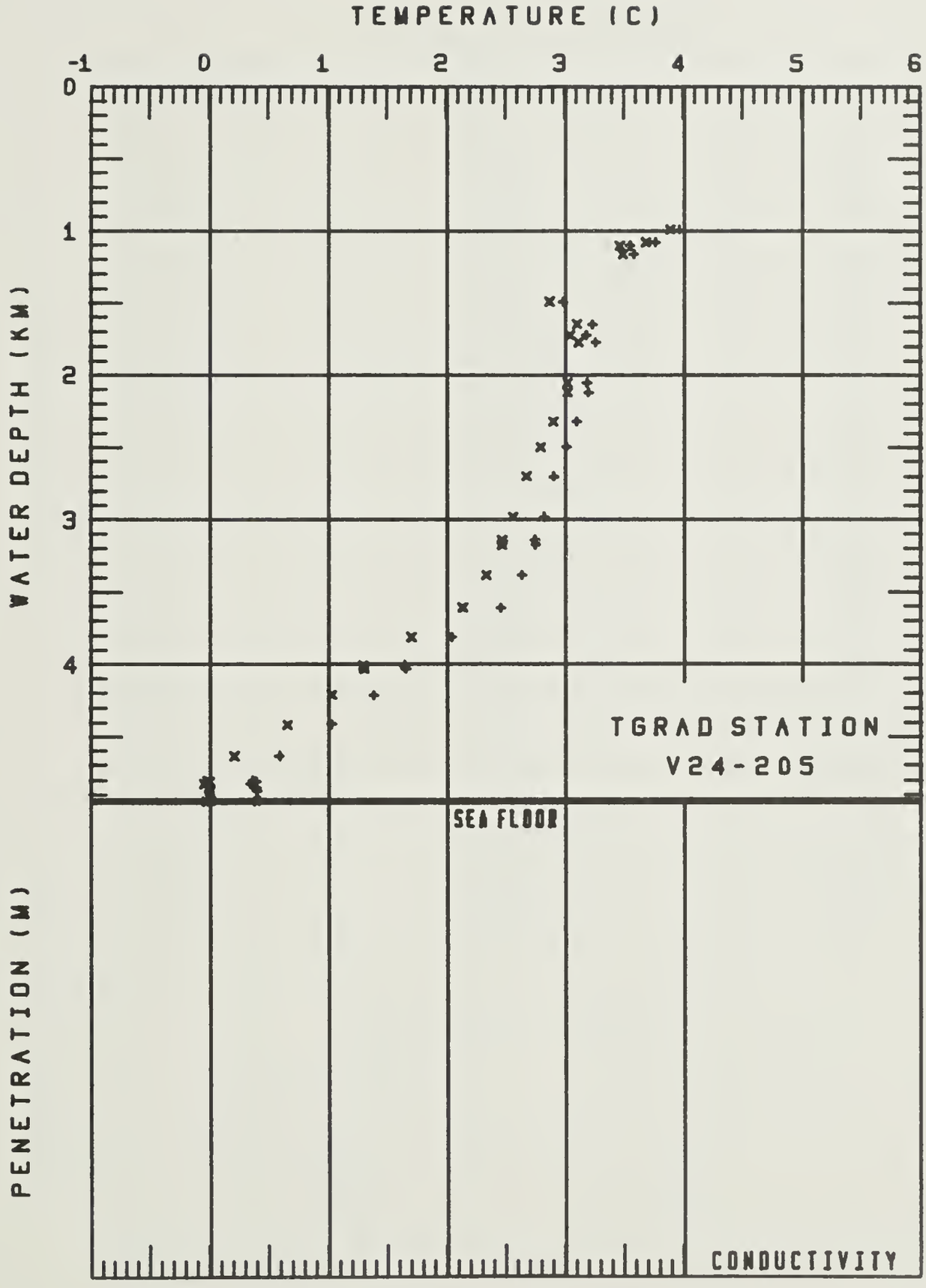
DEPTH	CONDUCTIVITY
1.00	2.08
3.00	2.33
5.00	3.24
5.90	3.42


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24 204
SEA FLOOR
PENETRATION (M)
1
5
2.08
2.33
3.24
3.42
CONDUCTIVITY

TGRAD STATION V24-205

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
990.	3.96	3.88
1078.	3.76	3.68
1098.	3.55	3.46
1158.	3.58	3.49
1489.	2.98	2.87
1645.	3.23	3.10
1720.	3.18	3.04
1769.	3.26	3.11
2114.	3.20	3.02
2047.	3.19	3.02
2316.	3.10	2.90
2494.	3.01	2.79
2700.	2.91	2.67
2977.	2.82	2.56
3168.	2.75	2.46
3138.	2.75	2.46
3381.	2.64	2.33
3605.	2.46	2.13
3806.	2.04	1.70
4003.	1.64	1.29
4028.	1.65	1.30
4207.	1.39	1.02
4410.	1.03	0.65
4632.	0.59	0.20
4800.	0.37	-0.01
4822.	0.35	-0.04
4858.	0.39	0.00
4852.	0.39	-0.00
4810.	0.39	0.00
4876.	0.40	0.00
4939.	0.42	0.01
4945.	0.38	-0.02


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-205
SEA FLOOR
PENETRATION (M)
CONDUCTIVITY

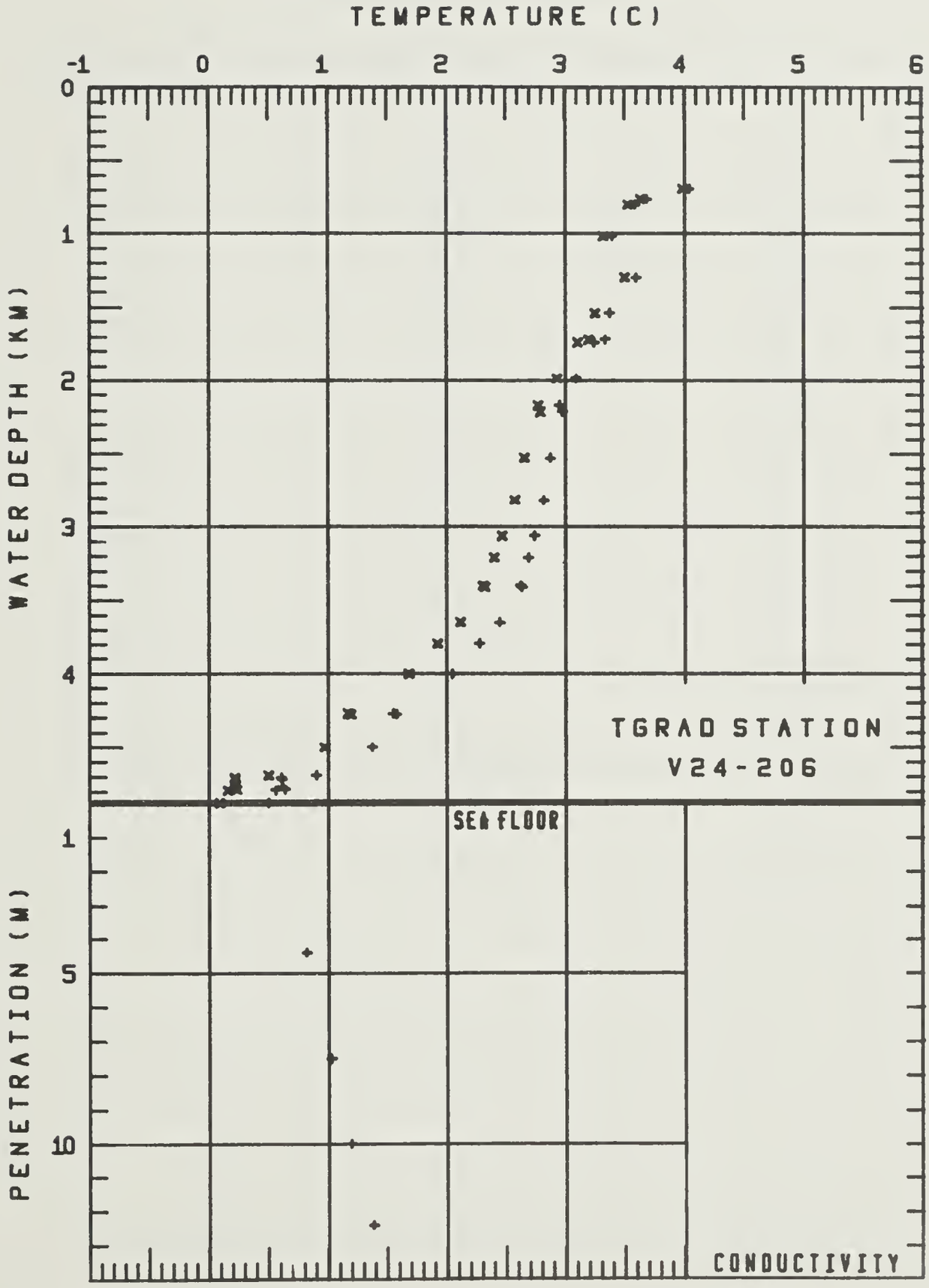
TGRAD STATION V24-206

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
687.	4.03	3.98
758.	3.68	3.63
795.	3.58	3.52
1015.	3.39	3.31
1295.	3.60	3.49
1538.	3.37	3.24
1716.	3.33	3.19
1742.	3.24	3.10
1985.	3.09	2.93
2211.	2.97	2.79
2170.	2.94	2.76
2529.	2.87	2.65
2812.	2.82	2.57
3059.	2.74	2.46
3210.	2.69	2.40
3409.	2.63	2.32
3400.	2.62	2.31
3649.	2.45	2.11
3793.	2.27	1.92
4002.	2.05	1.68
4275.	1.57	1.19
4273.	1.55	1.17
4501.	1.37	0.97
4687.	0.90	0.50
4786.	0.64	0.24
4715.	0.61	0.22
4707.	0.61	0.22
4766.	0.62	0.22
4792.	0.56	0.16
4879.	0.50	0.10

SEDIMENT TEMPERATURES

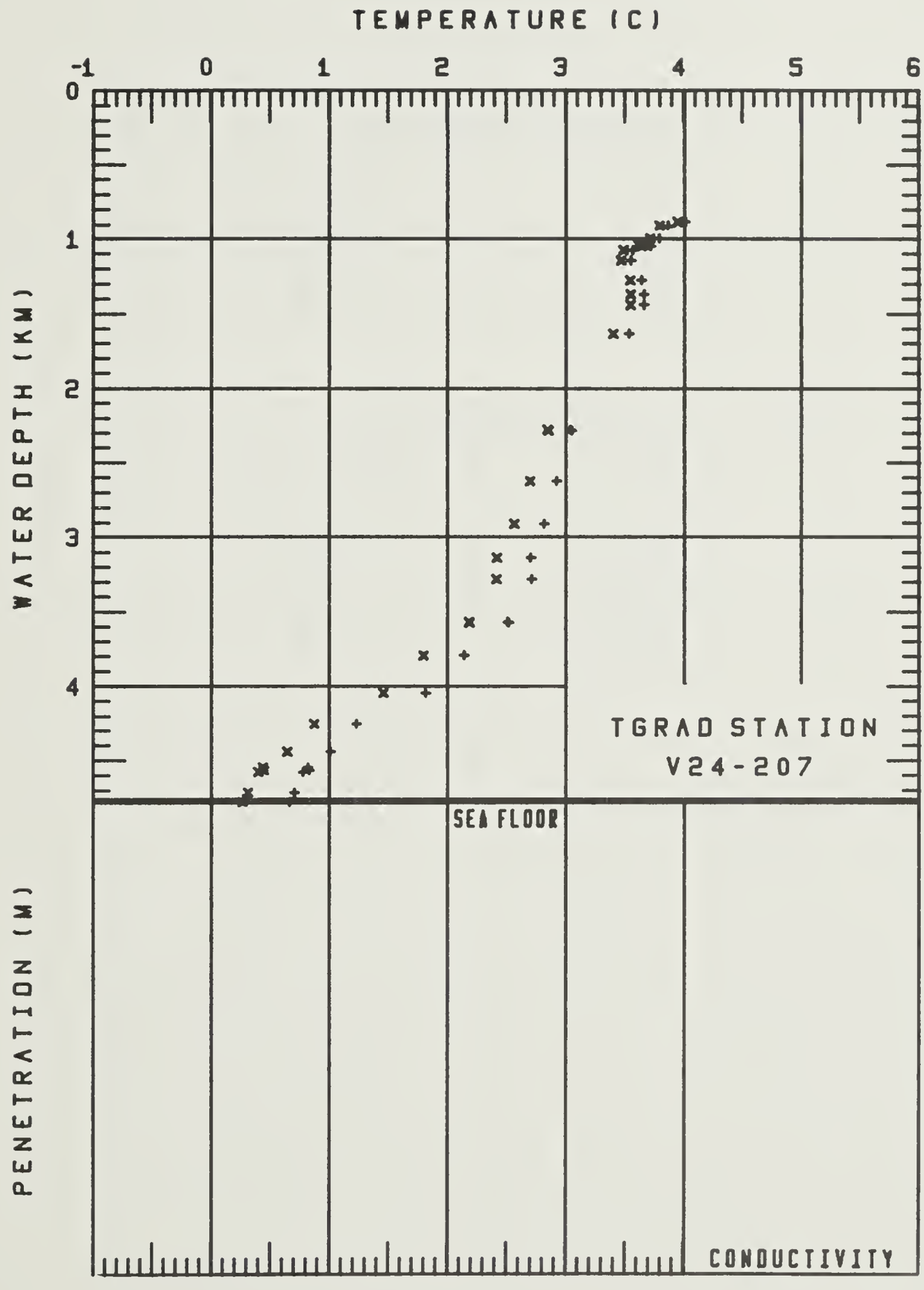
DEPTH	TEMPERATURE
4.39	0.82
7.51	1.02
10.01	1.20
12.40	1.38


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-206
SEA FLOOR
PENETRATION (M)
1
5
10
CONDUCTIVITY

TGRAD STATION V24-207

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
881.	4.01	3.94
910.	3.86	3.79
990.	3.79	3.72
1043.	3.72	3.64
1035.	3.69	3.61
1072.	3.57	3.49
1142.	3.56	3.47
1272.	3.64	3.54
1371.	3.66	3.55
1435.	3.66	3.55
1632.	3.53	3.40
2281.	3.05	2.86
2276.	3.04	2.85
2620.	2.93	2.70
2906.	2.82	2.56
3138.	2.71	2.42
3281.	2.72	2.42
3566.	2.51	2.18
3570.	2.52	2.19
3794.	2.14	1.80
4042.	1.82	1.46
4248.	1.24	0.87
4438.	1.02	0.64
4542.	0.82	0.44
4561.	0.83	0.45
4572.	0.78	0.40
4713.	0.71	0.31
4756.	0.71	0.30
4775.	0.67	0.26


TEMPERATURE (C)
-1
0
1
2
3
4
5
6
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-207
SEA FLOOR
PENETRATION (M)
CONDUCTIVITY

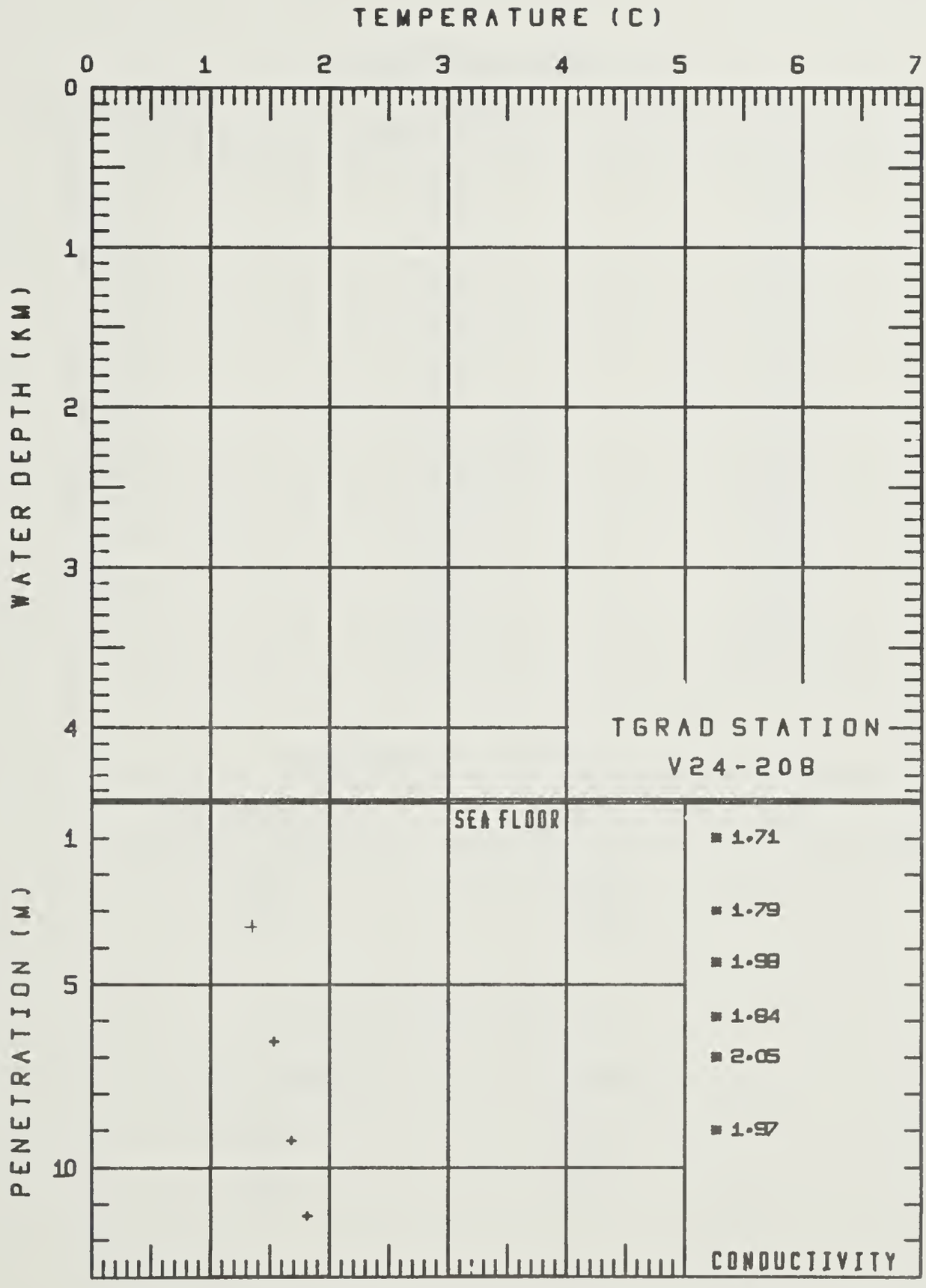
TGRAD STATIONV24-208

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
3.47	1.33
6.56	1.53
9.28	1.68
11.34	1.81

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.71
3.00	1.79
4.40	1.98
5.90	1.84
7.00	2.05
9.00	1.97


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
PENETRATION (M)
TGRAD STATION
V24-208
SEA FLOOR
= 1.71
= 1.79
= 1.98
= 1.84
= 2.05
= 1.97
CONDUCTIVITY

TGRAD STATION V24-209

WATER TEMPERATURES

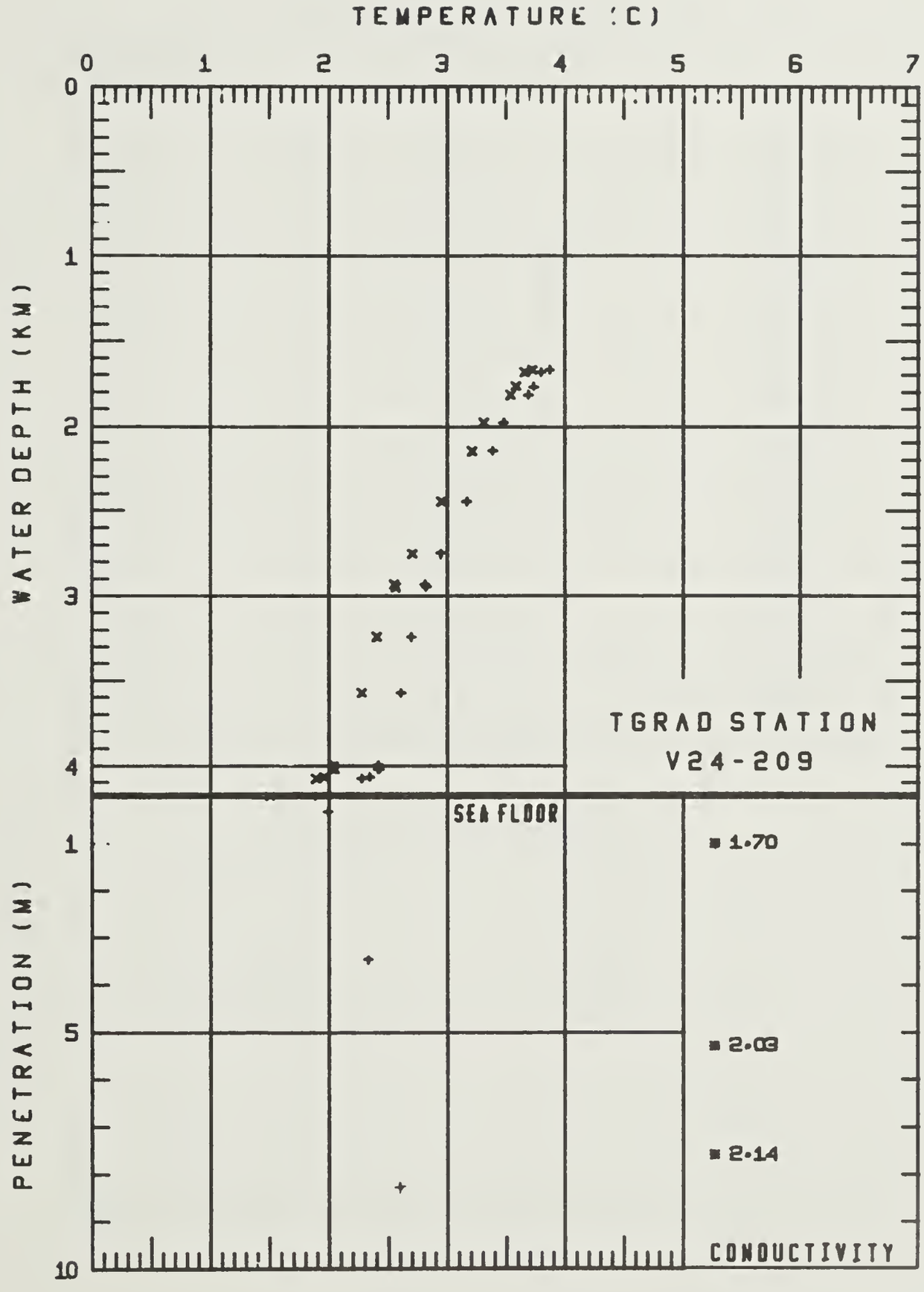
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1667.	3.87	3.72
1681.	3.80	3.65
1766.	3.73	3.58
1816.	3.69	3.53
1980.	3.48	3.31
2144.	3.39	3.21
2440.	3.16	2.95
2748.	2.94	2.70
2942.	2.82	2.56
2931.	2.81	2.55
3243.	2.70	2.40
3569.	2.60	2.27
3959.	2.07	1.71
4019.	2.42	2.04
3995.	2.41	2.03
4022.	2.41	2.03
4069.	2.34	1.95
4078.	2.27	1.89
4179.	1.88	1.50

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.34	1.98
3.46	2.33
8.29	2.57

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.70
5.30	2.03
7.60	2.14


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-209
SEA FLOOR
PENETRATION (M)
1
5
10
= 1.70
= 2.03
= 2.14
CONDUCTIVITY

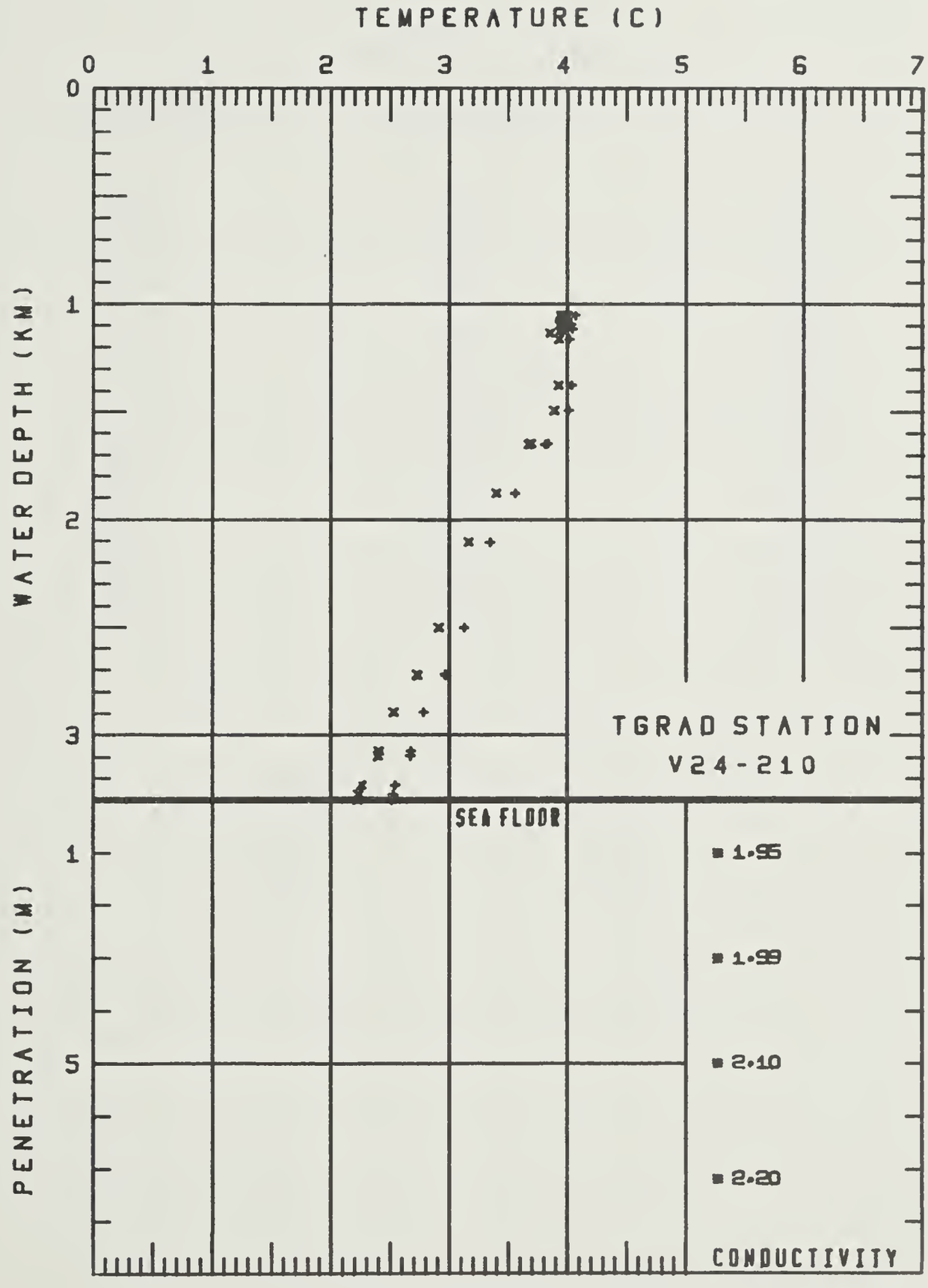
TGRAD STATION V24-210

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1051.	4.06	3.97
1115.	4.04	3.95
1163.	4.01	3.92
1092.	4.03	3.94
1049.	4.02	3.93
1097.	4.01	3.92
1052.	4.03	3.94
1132.	3.94	3.85
1375.	4.03	3.92
1492.	4.01	3.88
1646.	3.82	3.69
1652.	3.81	3.67
1875.	3.55	3.39
2105.	3.34	3.16
2499.	3.12	2.90
2721.	2.97	2.73
2715.	2.96	2.72
2892.	2.78	2.53
3073.	2.68	2.40
3093.	2.67	2.39
3230.	2.54	2.25
3273.	2.52	2.23
3300.	2.51	2.22

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	1.95
3.00	1.99
5.00	2.10
7.20	2.20


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
TGRAD STATION
V24-210
SEA FLOOR
PENETRATION (M)
1
5
1.95
1.99
2.10
2.20
CONDUCTIVITY

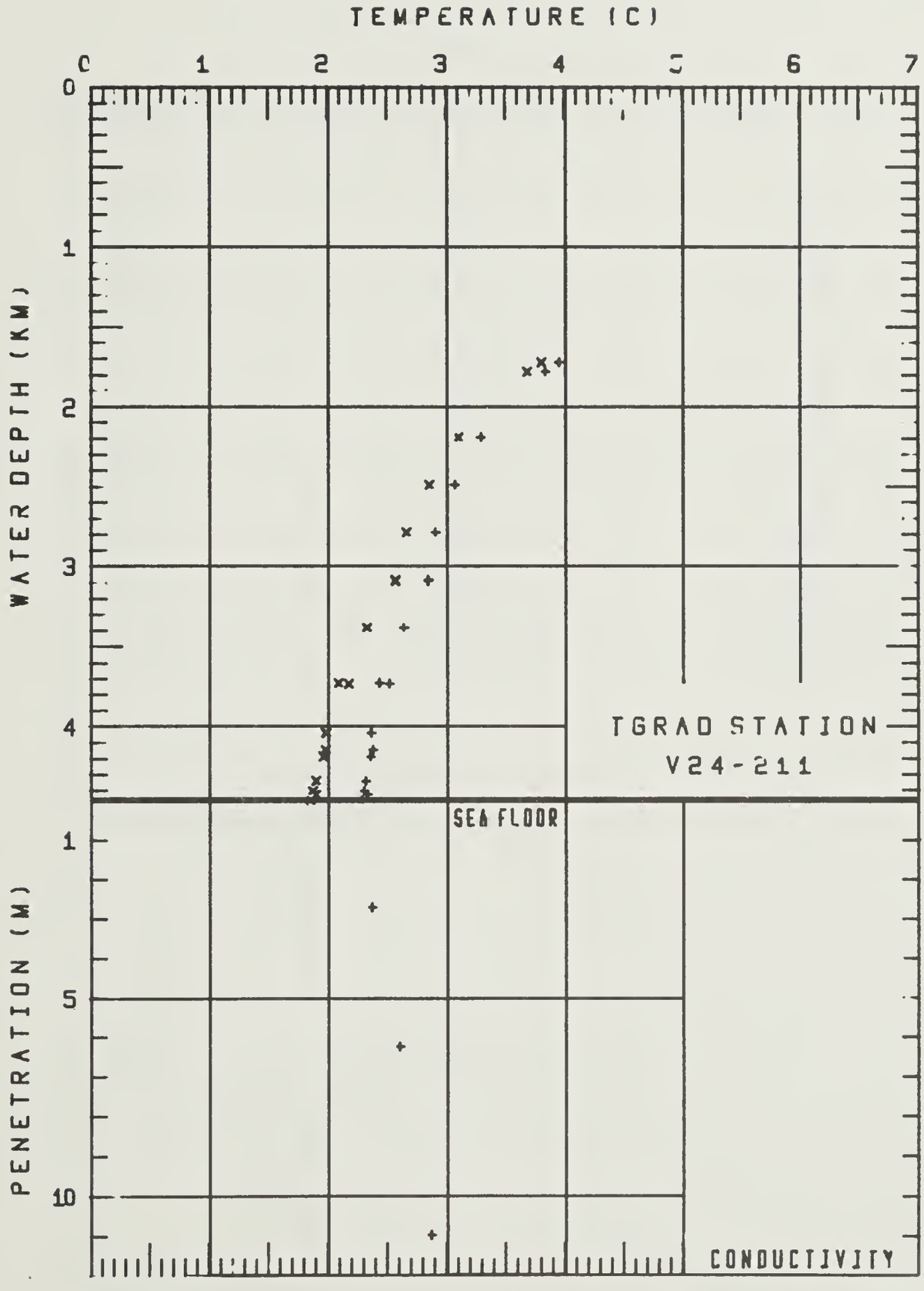
TGRAD STATION V24-211

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1721.	3.95	3.80
1779.	3.83	3.68
2189.	3.29	3.10
2489.	3.07	2.85
2786.	2.91	2.66
3083.	2.85	2.57
3086.	2.85	2.57
3379.	2.64	2.33
3730.	2.52	2.17
3725.	2.43	2.09
4038.	2.37	1.98
4037.	2.37	1.98
4141.	2.38	1.98
4186.	2.36	1.96
4341.	2.32	1.90
4402.	2.31	1.88
4422.	2.34	1.90
4459.	2.29	1.85

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.70	2.38
6.22	2.61
10.97	2.88


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-211
SEA FLOOR
PENETRATION (M)
1
5
10
CONDUCTIVITY

TGRAD STATION V24-212

WATER TEMPERATURES

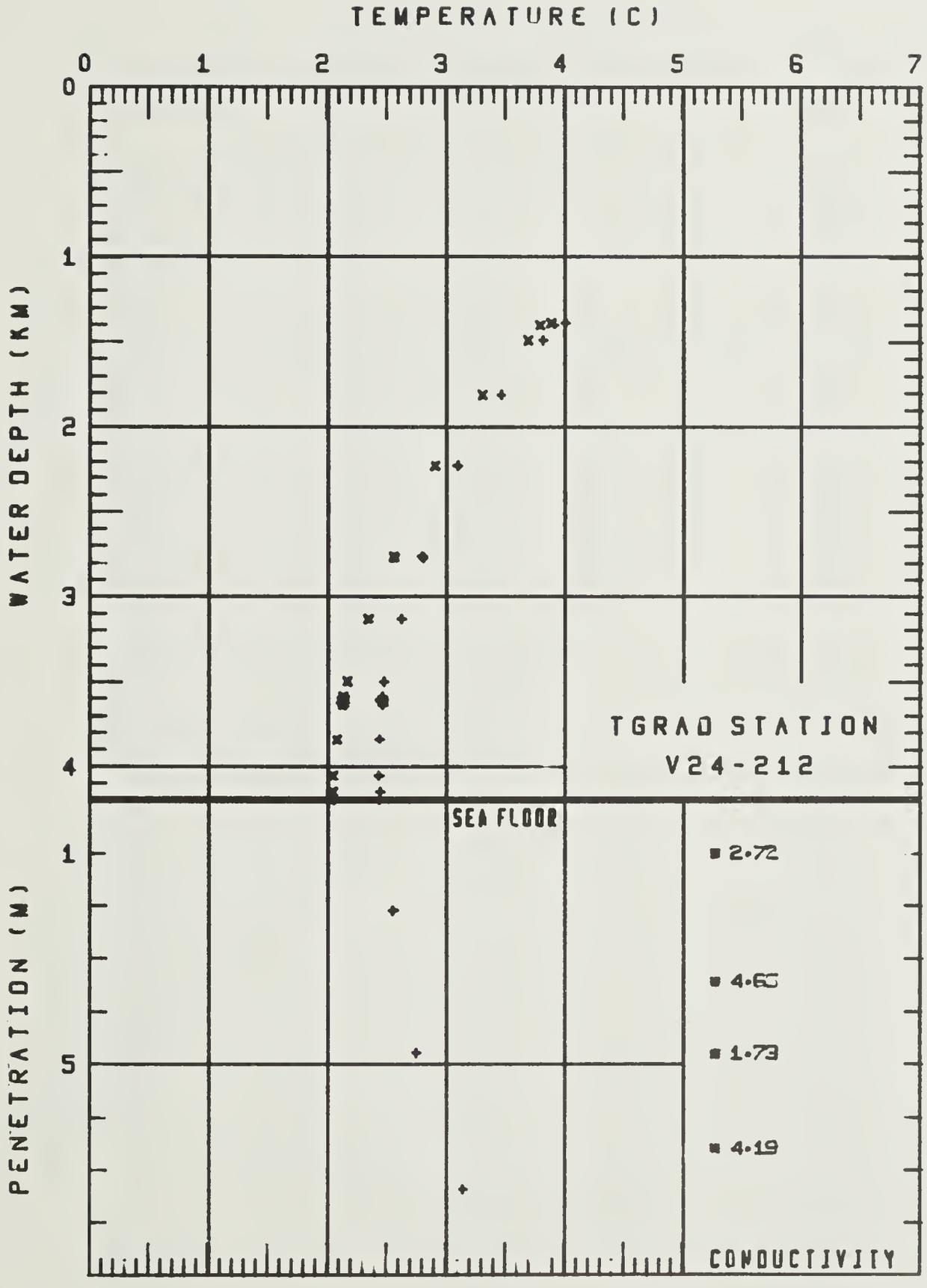
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1383.	4.00	3.88
1398.	3.91	3.79
1488.	3.81	3.69
1811.	3.45	3.30
2223.	3.09	2.90
2771.	2.80	2.56
2761.	2.79	2.55
3127.	2.62	2.34
3495.	2.48	2.16
3608.	2.46	2.13
3587.	2.46	2.13
3606.	2.47	2.14
3635.	2.46	2.12
3604.	2.44	2.10
3625.	2.47	2.13
3612.	2.45	2.12
3836.	2.43	2.07
4051.	2.43	2.04
4146.	2.44	2.04
4196.	2.43	2.03

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
2.09	2.55
4.78	2.74
7.37	3.14

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.72
3.44	4.65
4.60	1.73
6.60	4.19


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
TGRAD STATION
V24-212
SEA FLOOR
PENETRATION (M)
1
5
2.72
4.60
1.73
4.19
CONDUCTIVITY

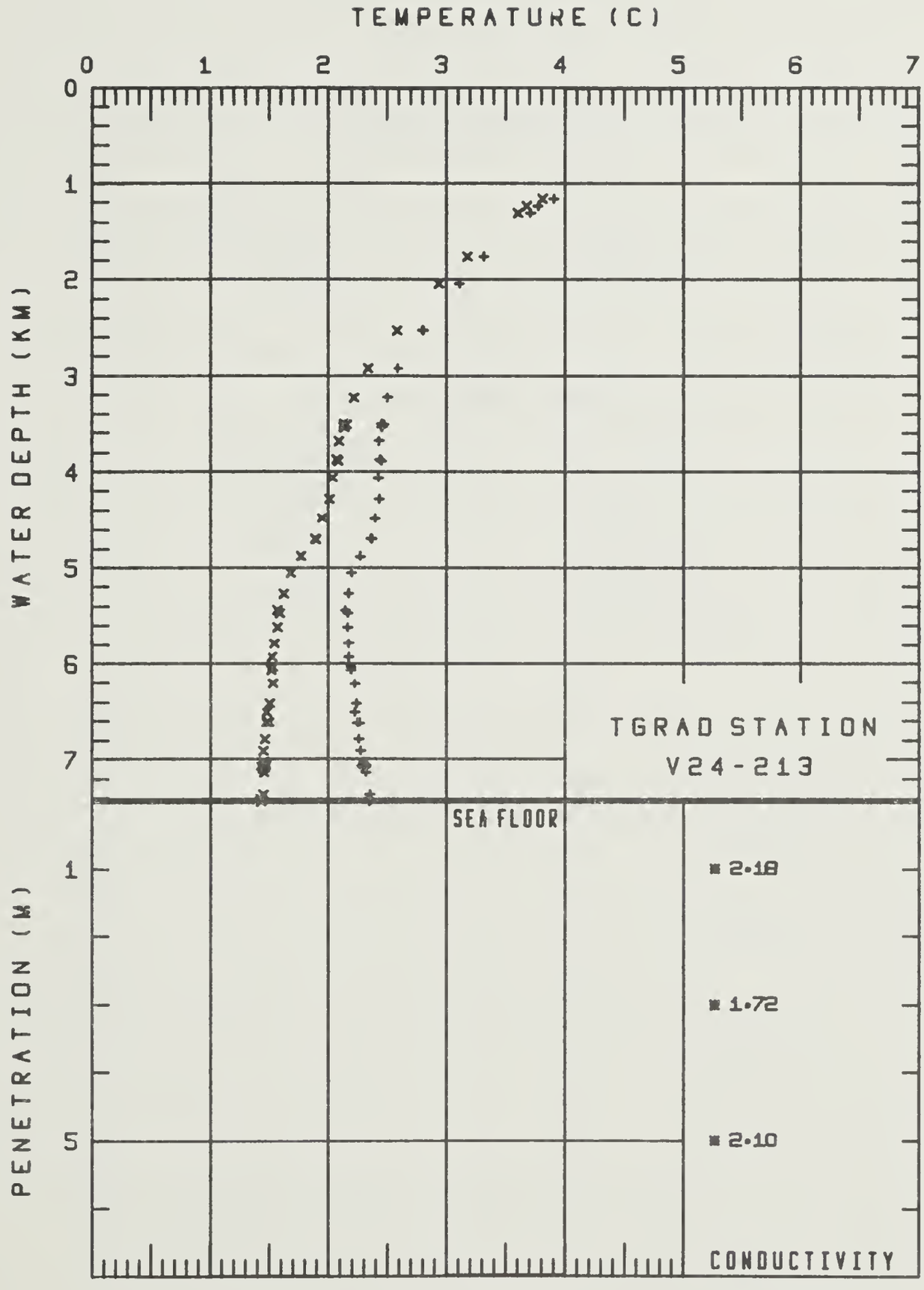
TGRAD STATION V24-213

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1156.	3.90	3.80
1226.	3.77	3.67
1306.	3.71	3.60
1757.	3.32	3.17
2042.	3.10	2.94
2526.	2.79	2.58
2522.	2.80	2.58
2918.	2.59	2.34
3223.	2.50	2.21
3505.	2.47	2.15
3501.	2.44	2.13
3530.	2.45	2.13
3529.	2.46	2.13
3679.	2.42	2.09
3883.	2.45	2.08
3866.	2.43	2.07
4060.	2.42	2.03
4286.	2.42	2.01
4483.	2.39	1.95
4702.	2.37	1.89
4698.	2.36	1.89
4879.	2.26	1.77
5050.	2.19	1.68
5261.	2.17	1.62
5466.	2.16	1.59
5435.	2.14	1.57
5616.	2.16	1.56
5786.	2.17	1.54
5921.	2.17	1.52
6068.	2.18	1.51
6032.	2.19	1.52
6204.	2.22	1.53
6414.	2.23	1.50
6497.	2.22	1.47
6610.	2.26	1.49
6607.	2.24	1.47
6783.	2.26	1.46
6902.	2.27	1.45
7022.	2.29	1.45
7127.	2.31	1.46
7069.	2.31	1.46
7058.	2.31	1.47
7071.	2.30	1.45
7067.	2.30	1.45
7087.	2.29	1.44
7055.	2.32	1.47
7061.	2.30	1.45
7049.	2.30	1.45
7058.	2.30	1.46
7052.	2.31	1.47
7077.	2.30	1.45
7082.	2.30	1.45
7065.	2.28	1.44
7079.	2.30	1.45
7362.	2.35	1.44
7401.	2.33	1.42
7418.	2.35	1.44
7425.	2.34	1.43

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.18
3.00	1.72
5.00	2.10


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
TGRAD STATION
V24-213
SEA FLOOR
PENETRATION (M)
1
5
■ 2.18
■ 1.72
■ 2.10
CONDUCTIVITY

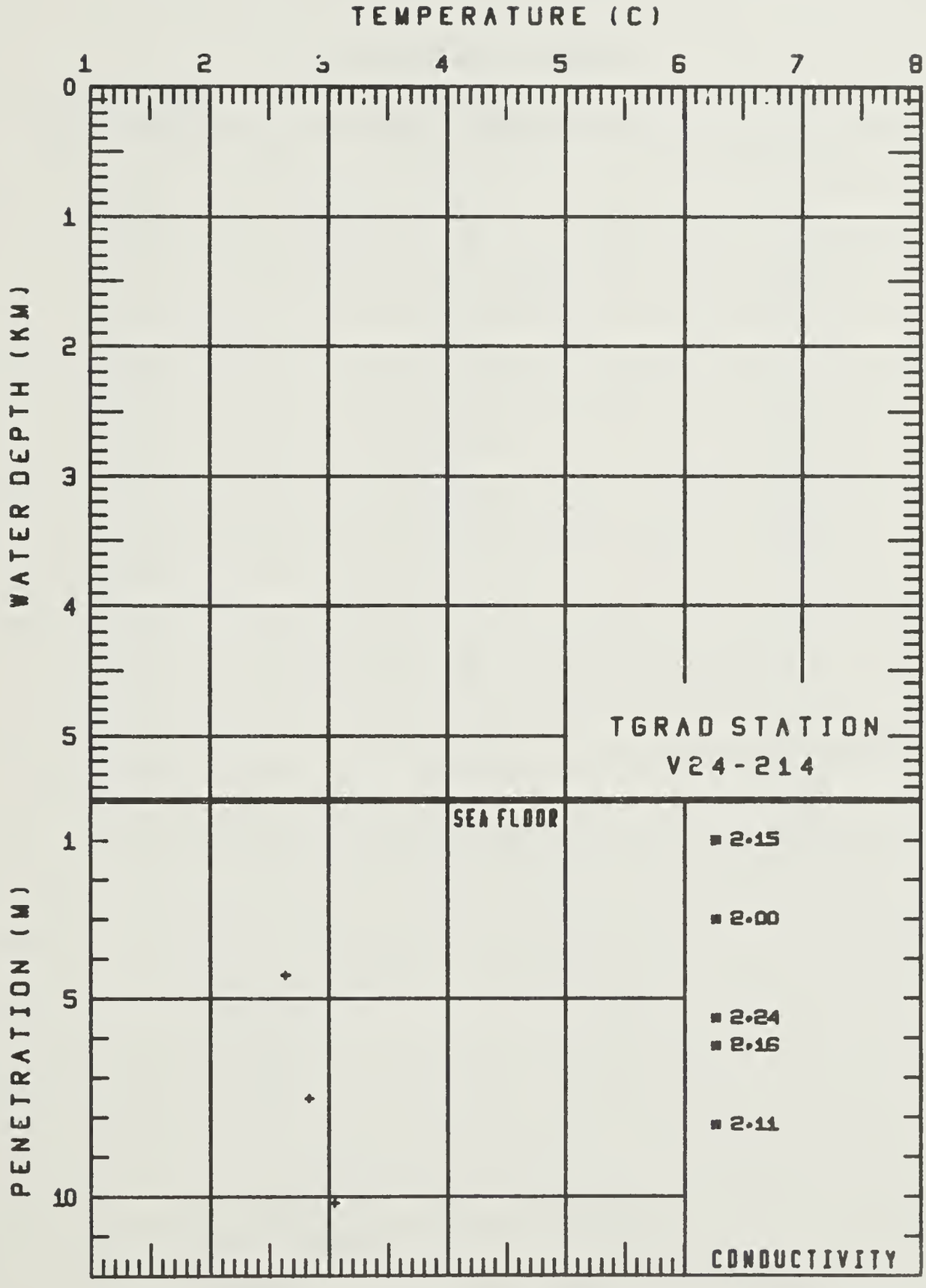
TGRAD STATIONV24-214

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
4.39	2.63
7.52	2.84
10.16	3.05

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.15
3.00	2.00
5.50	2.24
6.20	2.16
8.20	2.11


TEMPERATURE (C)
1
2
3
4
5
6
7
8
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-214
PENETRATION (M)
SEA FLOOR
1
5
10
= 2.15
= 2.00
= 2.24
= 2.16
= 2.11
CONDUCTIVITY

TGRAD STATION V24-215

WATER TEMPERATURES

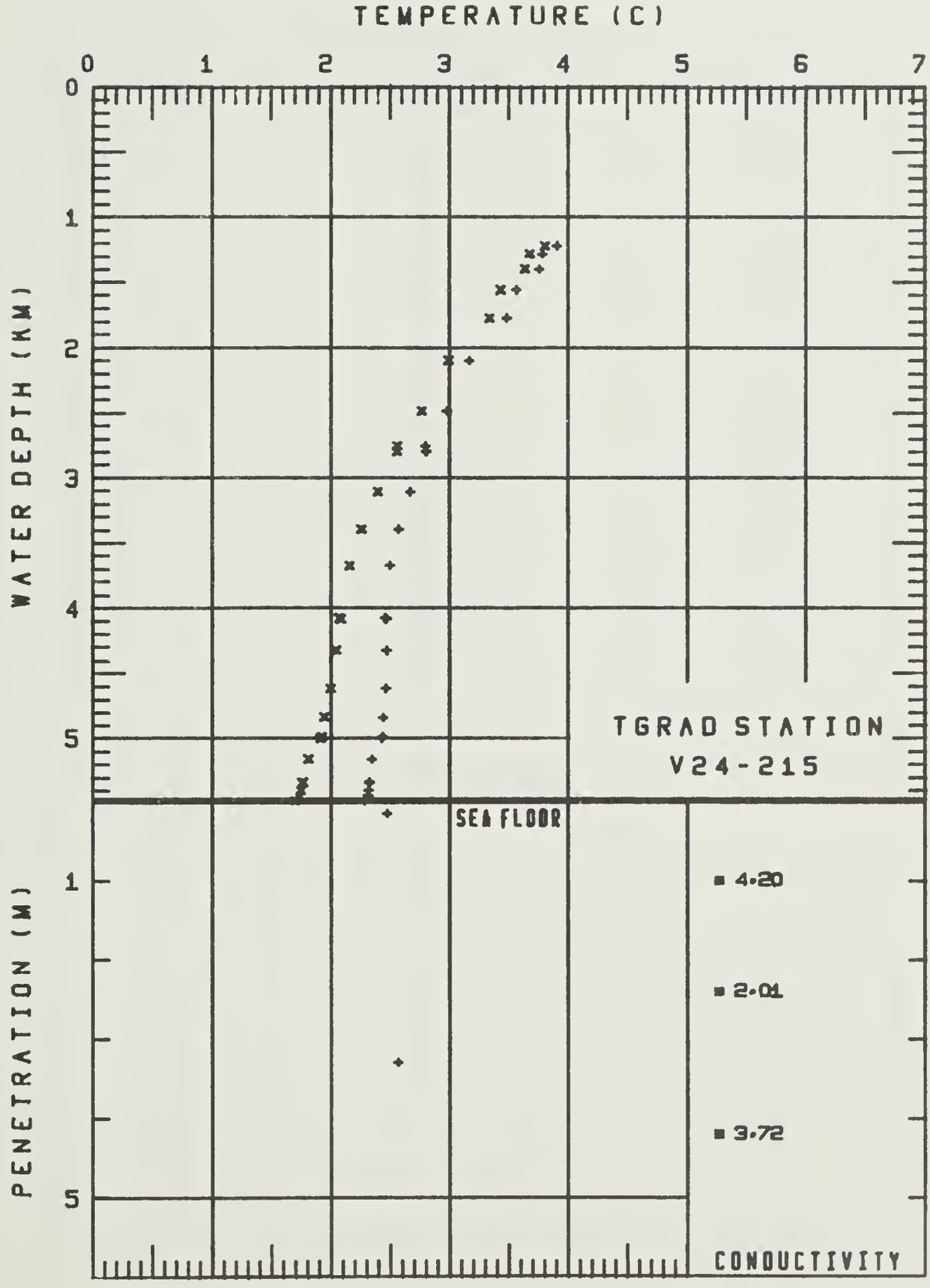
DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1218.	3.90	3.80
1281.	3.78	3.67
1395.	3.75	3.64
1552.	3.56	3.43
1773.	3.48	3.33
2093.	3.16	2.98
2484.	2.97	2.76
2792.	2.80	2.55
2754.	2.79	2.55
3104.	2.67	2.39
3390.	2.56	2.26
3670.	2.49	2.15
4081.	2.47	2.08
4070.	2.46	2.06
4321.	2.46	2.04
4615.	2.46	2.00
4834.	2.43	1.94
4988.	2.44	1.92
4996.	2.43	1.91
5154.	2.34	1.80
5333.	2.32	1.76
5339.	2.32	1.76
5339.	2.32	1.75
5398.	2.31	1.74
5438.	2.31	1.73
5479.	2.28	1.70

SEDIMENT TEMPERATURES

DEPTH	TEMPERATURE
0.16	2.47
3.29	2.56

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	4.20
2.40	2.01
4.20	3.72


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-215
SEA FLOOR
PENETRATION (M)
1
5
= 4.20
= 2.01
= 3.72
CONDUCTIVITY

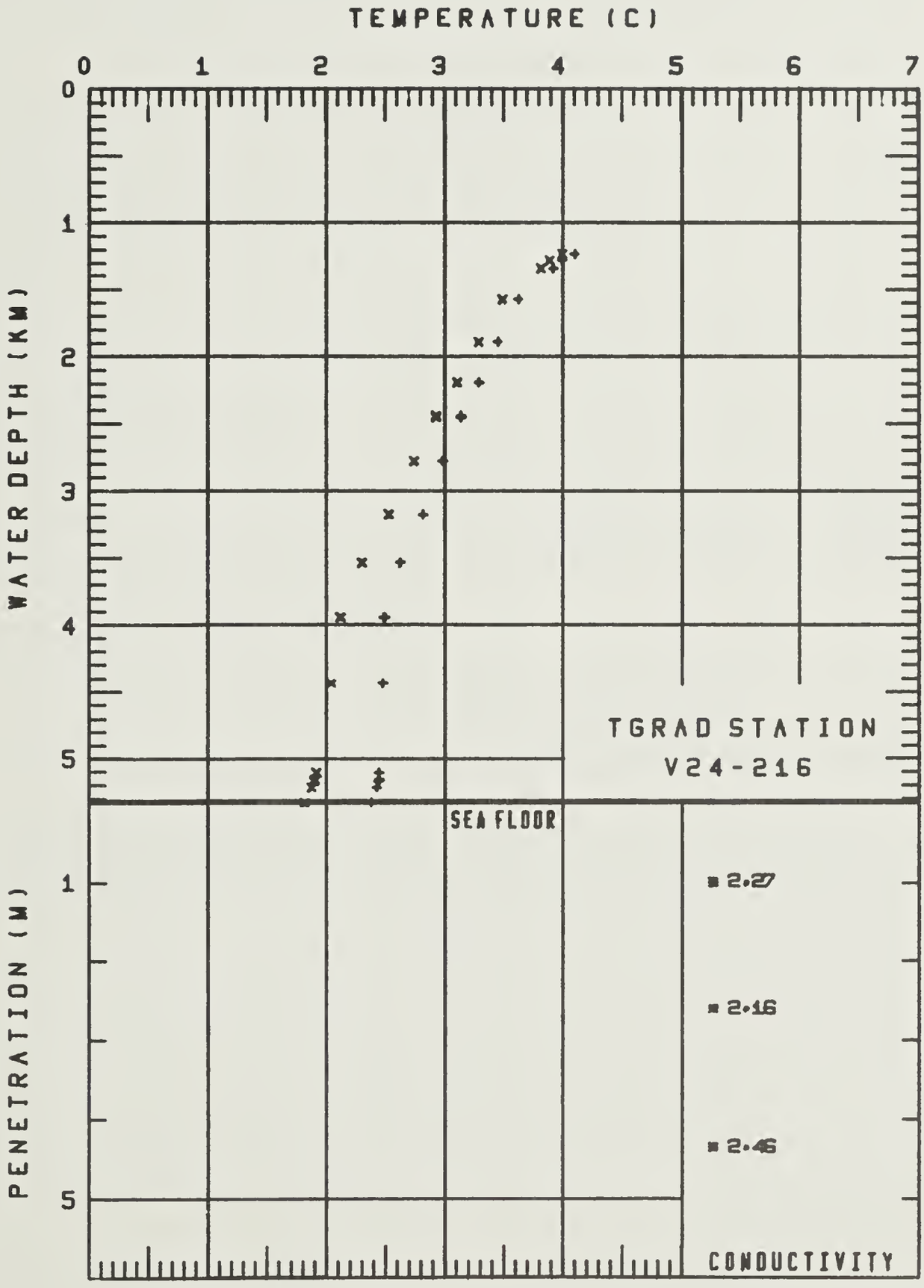
TGRAD STATION V24-216

WATER TEMPERATURES

DEPTH	IN SITU TEMPERATURE	POTENTIAL TEMPERATURE
1233.	4.10	3.99
1280.	3.99	3.89
1340.	3.92	3.81
1568.	3.62	3.49
1891.	3.45	3.29
2188.	3.29	3.10
2441.	3.14	2.93
2449.	3.14	2.92
2778.	2.99	2.74
3171.	2.82	2.53
3532.	2.63	2.30
3946.	2.50	2.12
3943.	2.49	2.11
4433.	2.48	2.04
5102.	2.45	1.91
5156.	2.45	1.90
5162.	2.44	1.90
5171.	2.44	1.89
5214.	2.42	1.87
5329.	2.38	1.82

SEDIMENT CONDUCTIVITIES

DEPTH	CONDUCTIVITY
1.00	2.27
2.60	2.16
4.35	2.46


TEMPERATURE (C)
0
1
2
3
4
5
6
7
WATER DEPTH (KM)
0
1
2
3
4
5
TGRAD STATION
V24-216
SEA FLOOR
PENETRATION (M)
1
5
= 2.27
= 2.16
= 2.46
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13. ABSTRACT

This report presents geothermal data representing 216 stations in the Atlantic, Indian and Pacific Oceans. This material includes deep water and sediment temperatures as well as conductivity measurements from sediment cores.

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Sediment conductivity						

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